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Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

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OCTOBER 1, 1906.

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 XXVI

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SEVENTEEN YEARS OF PROGRESS.

THE entrance of THE INDIA RUBBER WORLD, with this issue, upon a new volume, reminds us of the very great advance which has been made, during the seventeen years since our first issue, in the industry which the paper represents. The rubber trade was important, in many respects, previous to the time referred to; notable successes had been won in it, in the way of invention and in the fortunes accumulated by leaders in the industry. But in practically every respect greater progress has been made in these seventeen years than in the whole history of rubber before.

The volume of the business has grown to an extent which makes its former proportions seem small. The number of applications of rubber has increased accordingly, and marked improvements have been made in all the lines of rubber goods that were staple a score of years ago. The period under review has been one of great industrial and commercial development such as the world never knew before, but no branch has made more real advancement than has been shown by the better rubber concerns.

To begin with the crude rubber interest, the trade has been very greatly systematized within seventeen years. Manãos was hardly a factor in the trade then, though now ahead of Pará in the amount of rubber handled. Antwerp was handling but a few tons of rubber in a year, and nobody knew of the Congo as a rubber producing country. The rubber planting interest had not been established, beyond the work of a few scientific experiments.

In the rubber manufacture, it is true, most lines now important in the trade had an existence, but seventeen years have witnessed steady progress in the way of improved methods and improved products. But the rubber tire scarcely existed; the automobile tire now standard the world over had not been thought of; even the pneumatic bicycle tire was in embryo when THE INDIA RUBBER WORLD first appeared.

This has been an era of industrial combinations and concentration, and here, too, the rubber industry has kept pace with general progress. There was hardly a rubber manufacturing concern seventeen years ago with a capital stated as high as \$1,000,000, while now there must be scores of them, not to mention such aggregations of capital in the business as that of the United States Rubber Co.

The manufacture of rubber goods has been carried into a number of countries where before it had no footing—as in Japan, Australia, Switzerland, and Portugal. And the use of rubber goods has become general in many regions where they were scarcely known before. Special mention must be made of the development of the rubber manufacture in Germany, and of the export of rubber goods from that country—facts which figure among the notable in the history of the industry in any country.

It has been the pleasant task of THE INDIA RUBBER WORLD, month after month, to record all these and many other elements of growth and progress in the trade. It is still remembered in the office that when the publication of the paper was first proposed, there were friends of the Editor who felt it to be a mistake, because they thought he could never find matter enough in relation to rubber to fill its pages. On the other hand, it has been a constant problem how to get within the limits of the paper as full a review as was desirable of the growth of the trade.

It may interest some readers to have the fact recalled that when the first INDIA RUBBER WORLD was printed, raw rubber was "high", having just advanced above 60 cents a pound for fine Pará. A price so low as 60 cents has never again been recorded in our pages.

THE NEW STUDY OF RUBBER.

NO fact in connection with rubber culture is more fruitful of promise than the disposition of students of the scientific production of rubber, in Ceylon and elsewhere, to learn the various uses to which rubber is put, and the different processes of manufacture, with a view to best adapting the raw material to its final disposal. This seems perfectly logical, and yet it is not so very many years since even manufacturers regarded rubber as rubber, just as lead is simply lead.

But the requirements of the rubber factory are numerous and widely different, and the most successful management is that which best selects the grade or quality of rubber suited to each particular use. If this is true, it is none the less desirable that the producers of rubber should have an intelligent idea of what is requisite in high class material, to guide them in supplying the wants of the factory.

If a difference in methods of the coagulation or drying of rubber, or its packing for shipment, or conditions of storage, renders certain lots of rubber better or worse than certain others, it is not intelligent plantation management to ignore the various details involved. Hence we were pleased recently when Mr. Burgess, a government expert in rubber in the Malay States, while on a visit to Europe, devoted so much of his time to discussing with the manufacturers of rubber goods the qualities which they desired in their raw material for this, that, and the other purpose. And Mr. Herbert Wright, whose book on "Para Rubber" is reviewed elsewhere in this issue, devotes serious attention to similar questions.

If rubber is required for waterproofing or insulation or motor tires or solution—what can the plantation manager do to give the manufacturer the raw material best suited to his needs? But this study must not be left to the rubber producer alone.

It is equally encouraging to note the increasing tendency among experts in rubber factories to study their raw materials, not merely from the time of their arrival

in the stock room, but from the moment of the extraction of latex from the rubber tree. There was a time, of course, when the rubber manufacturer or his superintendent could not go further back than to the stock room in dealing with the nature of different rubber sorts.

But now that so much rubber is being produced under conditions which permit of careful scientific observation, we may look forward to the time when the rubber manufacturer will insist upon a definite treatment of the latex which enters into the rubber which he is to use, just as certain consumers of rubber goods now order upon specifications, rigid compliance with which they insist upon. We have in mind at least one successful manufacturer, on a large scale, who has given careful study to many details in connection with the preparation of crude rubber who feels that he has derived great benefit therefrom, and his example is worthy of a wide following.

We do not doubt that a great advance in the rubber industry would follow the organization of a Rubber Congress, for the periodical discussion of the proper preparation of rubber, to be participated in by producers and consumers, to the end that their interests in common be discovered and defined.

MR. ROOT'S SOUTHERN VISIT.

SOUTH America is beginning to figure very much more prominently on the world's stage. Some person of distinction has said lately that it is to be "South America's century," and the prediction seems likely to be verified, just as the century last past was distinguished by the great development of our own United States. While so many parts of the world are becoming overcrowded, half the Western hemisphere remains sparsely settled and almost non productive—a condition which the world cannot permit long to continue.

Discovered by the same Columbus, North America has become the home of vastly more people than South America and a much more important industrial center, but whatever may have been the predominating causes, this wide difference is bound to disappear, as the whole world tends more and more to approach a common standard.

The recent visit of Mr. Secretary Root, of the Washington cabinet, to the various South American capitals, has been the means of bringing out expressions of mutual sentiments of interest and esteem between Latin America and the United States the sincerity of which cannot be doubted. While his errand was by no means commercial in its nature, whatever tends to bind two or more countries together in interest promotes commercial intercourse among them.

Not that the visit of a single high official will necessarily be followed by larger trade relations between North and South America, but the conditions which called for such a visit, and which it has been the means of revealing to the world, point to new opportunities for the

manufacturers and exporters of the United States which, we feel certain, will be turned to good account.

The United States long have been large buyers of certain South American products, such as rubber, as a matter of necessity, but South America has bought European manufactures. There are many goods made here which the Latin Americans can use to advantage on a larger scale than in the past, and with the new era of South American development now opening we shall expect to see Europe's predominance in that trade declining.

SYNTHETIC RUBBER ONE YEAR HENCE?

PROFESSOR WYNDHAM DUNSTAN, whose interesting paper read before the British Association appears on another page, is willing to go on record with the statement that synthetic rubber will be an accomplished fact—some time. Some of his readers understood him to predict this important discovery within a year. The time limit which he really made, however, was before the Association met again at York. Suppose it should never again meet in York? Anyway, his statement would have weight were it not for the fact that he follows it by prophesying that Mr. Kelway Bamber's discovery that the latex of India-rubber can be cured by chloride of sulphur will be of commercial value.

To begin with, it isn't the wish of the writer in any way to minimize the excellent work that the gentlemen in the government service in Ceylon have done in connection with India-rubber. That it would be a commercial possibility, however, to take the latex of any rubber tree and make it up into marketable goods is not to be thought of. It should be appreciated that rubber to be of any value to the world at large must ninety-nine times out of a hundred be compounded, and not only compounded but made up into certain physical shapes for specific purposes. Any one familiar with rubber manufacture can readily see that it would be impossible, for example, to make an elevator belt with the rubber compounded to give the best wearing surface and with a strong friction by the use of latex in which was a modicum of chloride of sulphur, instead of a doughy compound run into sheets and shaped by the belt press. Indeed, how in the world could one get any sort of compounds into latex and chloride of sulphur, and where in the world would reclaimed rubber and other assistants that are absolutely necessary to-day be added?

Mr. Bamber's experiment is exceedingly interesting but not practical, and Professor Dunstan's estimate of its value is not sound. Is his estimate of the possibility of a commercial production of synthetic rubber within one year—or twenty-five years—any sounder?

THE FACT THAT GOVERNMENT OWNERSHIP of the railways is being strongly urged by Mr. Bryan and his political supporters does not mean, of course, that Uncle Sam is going into the railway business right away. But if he were it would be a matter of considerable interest to the rubber

manufacturers, particularly on account of the large volume of rubber supplies needed every year by the railway companies. Considering the amount of red tape, time, and annoyance involved in selling the government a few pounds of elastic bands or rubber erasers nowadays, the prospect would not be a pleasing one of having to trade with official purchasing agents in dealing with millions of feet of air brake hose, for example.

DEATH OF GEORGE F. HODGMAN.

As we go to press comes from London the sad news of the death of Mr. George F. Hodgman, of the Hodgman Rubber Co., New York. He left two months ago with his wife for a tour of Europe. At that time he was in the best of health. Ten days ago his son Theodore was summoned to England, arriving only a few days before the suddenly developed heart trouble terminated fatally. The passing of one who stood for so much in the way of fair dealing, high courage, and staunch friendliness, will shock and sadden the whole trade.

KING LEOPOLD'S RUBBER REALM.

WHATEVER may be the outcome of the rumored negotiations for the acquiring by Americans of an interest in the Congo rubber trading companies, the rumors at least afford an occasion for reviewing an interesting branch of the crude rubber situation. No other country, considered as a source of crude rubber, has ever received so much attention at the hands of the general public as the Congo Free State. In the first place, this was until lately an unknown country. It is not a score of years since Stanley, just become famous on account of his daring invasion of "Darkest Africa," announced to the world his discovery of untold wealth of rubber along the great Congo and its tributaries.

Commercial companies were speedily formed to exploit the resources of that region, rubber always being considered first, because the rubber was ready in the forest for any comer, without waste of time for planting, building, or other development work. Returns were speedy, and at such a liberal rate as to suggest magic. Few white people had ever seen the Congo country, so that it remained a land of mystery, and all the more mysterious because of the great profits of the trading companies operating there, whereas raw rubber had never been associated in the public mind with getting rich quick. Besides, the Congo Free State had as its patron a European monarch whose name was on everybody's tongue, and who was generally supposed to be getting a good share of the trading profits referred to. The whole civilized world has been called into the so called Congo controversy, in relation to the treatment of the rubber gatherers, whether inspired by pure philanthropy or commercial jealousy—a question not to be discussed here.

The fact is that there is yet a vast amount of rubber in the extensive area of the Congo Free State, despite what has been exported. It is mainly upon the receipts from the Congo that the rubber trading at Antwerp has been built up, within a few years, from nothing to 5000 or 6000 tons a year. The figures below show the amounts of rubber exported year by year from the Free State proper:

	Pounds.		Pounds.
1887.	66,110	1897.	3,657,236
1888.	163,447	1898.	4,649,623
1889.	288,448	1899.	8,242,935
1890.	272,066	1900.	11,696,375
1891.	470,736	1901.	13,228,013
1892.	313,945	1902.	11,770,991
1893.	539,537	1903.	11,399,882
1894.	714,022	1904.	10,628,066
1895.	1,298,337	1905.	10,695,887
1896.	2,898,161		

While some of the areas first exploited for rubber have now become less productive than at the beginning, new fields have been entered, and there remains no little territory which has not been worked at all. Moreover, in places where originally only rubber vines or creepers were known, and when they seemed about exhausted, trees yielding rubber of good quality have been discovered. Altogether, the rate of production is being maintained at such a rate that, during the first seven months of 1906, more rubber from the Congo was received at Antwerp than in the same period in either of the last two years preceding. And a study of the financial markets of Brussels and Antwerp shows a range of prices for shares in the Congo rubber trading companies that indicates a continued high degree of public confidence in their future.

Practically the first official act of the Congo Free State government as now organized, was to declare all unoccupied lands to form a domain of the crown, all products of these lands likewise being reserved to the state. Hence the basis for a system of concessions to trading companies, protected in their monopolies by all the power of the government. Many such companies have existed, and many still exist, though there has been a series of reorganizations tending to concentration of trading interests. Particularly has there been a tendency to admit the participation of the state in the profits of the *concessionnaire* companies. In a number of cases the state holds half the shares issued by the companies, it being understood that there has been no capital supplied by the state. The companies acquire trading rights, under governmental protection, and pay half the net profits for their privileges. The Société ABIR (Anglo-Belgian India Rubber Co.), often mentioned as one of the more prominent of these companies, and one of the first in the field, has been noted for the extent of its profits and the prices paid for its shares. More recently the Syndicat (or Compagnie) du Kasai has figured largely in the Congo trade, being the result of the merger of fourteen rubber *concessionnaire* companies in the Kasai valley. Half the shares in this combination are held by the government. The Kasai company shipped 815 tons of rubber to Antwerp in 1903; 911 tons in 1904; and 1210 tons in 1905. Their profits in 1905 amounted to nearly \$1,500,000, and it is expected that at the meeting this month a dividend will be declared bringing the total for the last business year to 1500 francs per share—three times the nominal value. These shares have been quoted recently at 10,250 francs.

It will be seen from the above that for any outsider to become interested in the Congo rubber situation in a large way, negotiations would have to be entered into with the government. Also, that while the present rate of financial returns is continued, the Congo rubber interests can not be bought for a song.

The companies named below do not comprise all which hold or have held concessions on the Congo, but only such

as figure among the shippers of rubber to Antwerp during the past year:

Compagnie du Kasai:

S. A. Belge pour le Commerce du Haut-Congo.
 Nieuwe Handels Vennootschap
 Société des Produits Végétaux du Haut Kasai.
 Cie. Anversoise des Plantations du Lubefu.
 Plantations Lacourt.
 Société "La Belgika".
 Comptoir Congolais "Velde".
 Société "La Kassaïenne".
 Société Anonyme "La Djuma".
 L'Est du Kwango, S. A.
 Société "La Loanje".
 Central Africaine.
 Cie. des Magasins Généraux du Congo

Société Anonyme Trafic Congolais.

Société Générale Africaine.

Société A B I R.

Société Anversoise du Commerce au Congo.

Comité Spécial Katanga.

Cie. du Chemin de fer des Grand Lacs.

Société Anonyme Isanghi.

Société Anonyme Belge Commerce du Haut-Congo.

Compagnie du Lomami.

Société Anonyme La Belgica.

Société Anonyme l'Ikelemba.

Société Equatoriale Congolaise.

Société Anonyme La Lulonga.

Camille D'Heygere.

Comptoir Commercial Congolais.

Cie. Bruxelloise pr Commerce au Congo.

Compagnie Andrea.

Another and important feature of the Congo rubber trade is the collection of taxes by the state through the enforced labor of the natives. In other words, taxes are paid "in kind"—in rubber, principally instead of cash. The yearly budget of the Congo Free State includes, among estimated receipts, so many millions of francs of such taxes. How many pounds of rubber are required to discharge this obligation is nowhere recorded, but the proceeds of the tax collection are included in the arrivals at Antwerp for account of the Société Générale Africaine, which are referred to also as for the *Domaine privé*. These arrivals amount to more than 2000 tons annually, and doubtless the business involved would not be turned over to foreigners for a small consideration. Any way, how would the purchaser manage to keep up the collection of rubber?

SOME WANTS OF THE TRADE.

[345] FROM an Illinois hardware company: "We are in the automobile business and are anxious to get hold of some kind of vulcanizer for repairing automobile tires. Can you give us the address of any party making such an apparatus?"

[346] A well known mechanical rubber goods house would like to communicate with the manufacturers of a waterproof compound that can be used for saturating cotton woven covering to be used on the outside of steam hose, a decided improvement over the red paint and die covering now in use.

[347] From Quebec: "Would you be so kind as to put me in touch with some of our United States friends manufacturing combination fountain and hot water bags, also uterine syringes. I would buy in hundred, or more, lots, on manufacturer's own terms. I already have the Canadian manufacturers' figures."

INVENTORS AND THEIR REWARDS.

THE rewards of invention are commonly supposed to be liberal. Better evidence of this belief is not needed than the voluminous issues every year from the patent offices of the United States and a dozen other countries. There are yet people who suppose the ownership of a patent for a new invention to be a clean title to a fortune; it is only necessary to obtain a patent, and the rest will happen as a matter of course. The great number of failures seems in no way to deter the army of inventors, which seems constantly to increase.

The profits made from very many patented articles have been enormous, it is true, and the number of profitable "new" inventions was never so great in any period in the past as now. But profits under the protection of patents and financial rewards for the patentee himself are not necessarily the same thing. Hence the conviction in some minds that the patentee of a useful article does not always get a "square deal"; in other words, that governments fail to do all that they should for the interests of inventors.

There always have been people who failed to make the most of their opportunities, and inventors are, after all, made of about the same sort of stuff as other people. One inventor accepts the first price offered for an untried patent and is content until, in the unforeseen progress of the world, the invention becomes useful and the purchaser is found to be making a fortune. The first American patent for a rubber beer bottle stopper was bought on a venture for \$1000 by a man who is reported to have derived \$5,000,000 or more in royalties from it.

The fact is that the issue of a patent is usually so far in advance of the development of the art to which it relates that a fair opportunity to test the merit of the invention has not been afforded. The inventor, therefore, has no means of determining the value of his discovery. Thomas A. Edison accepted \$40,000, freely offered for his first patent, when he doubtless would have been glad to accept \$2000 for it.

And not every inventor is enough of a business man to make the most of the rewards that do come to him. The inventor, in a measure, is apt to lack in business "sense." He makes a mechanical improvement, for example, which some one else is quick to see merit in, and prepared promptly to place before the world. It is made and marketed as if it represented finality in perfection of the branch to which it relates. But if its exploitation were left to the inventor, he might never be satisfied with his product. Every time he turned out a thousand of his device or apparatus he would be tempted to experiment in the direction of an improvement—meaning new patents, new models, prospective greater fortunes—so that the article would never be completed, and a large business never developed.

It is not strange, therefore, that the actual inventor and patentee of many an important principle or device has failed to pocket a large share of the profits derived from its sale. But there is another side of the question. The nominal inventor and patentee, no matter how much merit should be ascribed to him, in countless instances has only contributed to the world a crude idea, which has been made of really great benefit to man, by the combined efforts and skill of

numerous other workers, who for the most part never share the credit for the invention.

Nelson Goodyear (a younger brother of Charles) obtained a patent for the compound known as hard rubber—something before not known to the world, and for awhile his estate collected royalties from licensees under the patent. But within a few years improvements were made in the art, so that before the expiration of the Goodyear patent the original process had become obsolete. To-day his patent represents no more in the hard rubber art than the first suggestion of the possibility of producing a material that has come to be of great utility. First and last fortunes have been made under patents for hard rubber in which Nelson Goodyear's estate never shared, but only because his initial invention was supplemented in an important way by so many later investigators and experimenters. Possibly if his patent specification had been written on broader lines, the reward for Goodyear would have been more liberal, but no blame can attach to the government in this regard.

To-day the rubber tire represents the field in rubber invention which is most prolific in patents. It certainly is the rubber branch which appeals most strongly to public interest. Enormous sums have been paid for rubber tire patents or have been collected in royalties under such patents. But no patentee of a rubber tire has grown wealthy in consequence. The fact is that out of thousands of tire patents, the principle involved in a score or less has proved of commanding importance, and whoever happened to own the patents at the proper time to share in the development of the trade has profited financially—some of them very largely. But this does not imply any lack of justice, on the part of governments or tire makers, to the various inventors involved.

Look at Thomson, the English inventor, who brought out the first pneumatic rubber tire, more than 60 years ago. He was so far ahead of his time that he and his patent were actually forgotten before a commercial demand for pneumatic tires existed. When the time was ripe for such tires, and inventors began to recognize the demand, their applications for patents in many cases were denied on the ground of anticipation by Thomson. Thomson himself never profited a penny by his invention. Millions of tires based upon the Thomson principle have yielded profits to somebody. Of course there have been later inventors who have profited from patents on improvements on the crude fastening or retaining devices suggested by Thomson.

As for Dunlop, who had never heard of Thomson when he took out a patent, his tire, though it was the original basis of a great tire company, was never really subject matter for a valid patent. And Dunlop's own tire soon dropped out of sight. The tire which his company really founded their business upon was made under the Welch patent, covering the principle of attachment by means of two inextensible wires, engaging a suitably grooved rim, but not necessarily for a pneumatic tire. Not even Welch had in mind the modern pneumatic tire. His specification did mention, in one of 18 claims, the applicability of his device to a tire made on Thomson's principle, and this one claim eventually survived and became the basis of the Dunlop monopoly. But

did this make Welch the inventor of the perfected tire marketed by the Dunlop organization?

So with the "clincher" tire. Neither the American nor the British patentee of this type of tire specified any such tire as is actually made to-day by Goodrich, Michelin, or the British, German, and Italian manufacturers. Patents were taken out and sustained in some countries and denied in other countries. The "clincher" tire has become standardized throughout the world, and is now the leading type in pneumatics for motor cars. But no one man—no two men can be named as the inventors.

Certain tire inventors have obtained handsome rewards under their patents, recognized in some countries which are not to be begrudged them. But the real development has been the work of scores, hundreds, or thousands of persons, in rubber factories, automobile factories, among automobilists, and possibly elsewhere—the result of endless painstaking experimenting, with a view to overcoming defects and weaknesses and to making tires equal to new requirements, unforeseen by the original inventors.

This is how large and far reaching inventions are developed in more cases than the public realizes. Inventors of course are entitled to rewards, but hardly to the whole profit from developments in which they may be only pioneers, and perhaps without a conception of the possibilities involved.

C. D. FROST.

HOW MANY AUTOMOBILES ARE THERE?

THE number of automobiles in use in the United States it is practically impossible to determine. Some figures of interest are obtainable from the states in which automobiles are required by law to be registered, but they are not conclusive. Up to July 1 automobiles had been registered in twenty-four states (having registration laws) as follows, except that in some cases the date of the report was later in the month:

California (Jul. 17).....	6,787	New York.....	30,829
Connecticut.....	3,320	Oregon (Jul. 23).....	310
Delaware (Jul. 19).....	296	Pennsylvania (Jul. 19).....	11,679
Florida.....	232	Rhode Island.....	1,819
Indiana.....	3,325	South Dakota (Jul. 21).....	510
Iowa.....	2,214	Tennessee.....	628
Maine (Jul. 19).....	1,181	Vermont.....	727
Maryland (Jul. 19).....	2,240	Virginia.....	198
Massachusetts.....	15,897	Washington (Jul. 23).....	300
Michigan (Jul. 19).....	4,126	West Virginia.....	162
Nebraska.....	812	Wisconsin (Jul. 19).....	2,270
New Hampshire (Jul. 19).....	952		
New Jersey.....	16,500	Total.....	107,314

This list does not embrace two states in which a great many automobiles are owned—Ohio and Illinois. On August 2 the local registration in the city of Chicago, Illinois, amounted to about 5000. Another point is that so many automobiles are registered in more than one state. This is particularly true of automobiles registered both in New York and in the adjacent states. As a rule the officials make no effort to estimate the extent of duplication. But the secretary of the Massachusetts highway commission makes an interesting statement to THE INDIA RUBBER WORLD, as follows:

Under the law, when ownership of a motor vehicle is transferred its registration expires. Registration by the new owner or person in control of the vehicle then becomes necessary. Many machines have therefore been registered more than once. The commission has received approximately 3500 or 4000 notices of transfer of owner-

ship. There have probably been many more transfers of which the commission have not been notified. Then too, hundreds of automobiles from other states have been registered by their owners while touring in Massachusetts. It will be seen that the number given above, 15,897, does not represent the number of automobiles now in Massachusetts. There may be 8000 or 9000, but it is impossible to correctly estimate the number.

It would not do, however, to cut in half the whole registration of the 24 states named to get at the number of cars owned in them. In fact, in a number of states the registration figures are given as showing the exact number of cars on the date of report. Making a liberal deduction for duplicated registration and for machines which have gone out of use, and adding to the result a number of cars for the states not on the list, commensurate with their population and wealth, it appears to the writer not impossible that there are 100,000 automobiles in the country. But even reducing this number by 25 per cent. the admitted annual rate of automobile production in the United States to-day—the number would very soon reach 100,000.

* * *

THE "Daily Mail Year Book" for 1906, published in London, states that the approximate number of motor cars in use in the United Kingdom in 1905 was 31,129, as against 18,340 in 1904, showing an increase during the year of 12,789. These returns are made up to midsummer of each year. The approximate number of motor cycles in use as given is somewhat larger—34,706 in 1905 and 21,521 in 1904.

The British royal commission on motor cars has made a report, showing the following number of vehicles to have been under license in the United Kingdom at the dates given:

	Motor Cycles.	Other Motor Cars
December 31, 1904.....	27,348	24,201
September 30, 1905.....	37,665	36,373
May 1, 1906.....	42,438	44,098

* * *

THE "Annuaire Général de l'Automobile" for 1905, published in Paris, contains a list of the names and addresses of automobile owners, without other details, except a statement to the effect that while an effort has been made to render the list as complete as possible, it is not offered as a full list, since the authorities are not obliged to supply the names of those registering automobiles. The number of names appearing in this compilation is as follows:

Paris.....	4,318
Seine.....	801
Departments.....	12,626
Total.....	17,745

A later publication, by a French parliamentary commission, gives 21,524 as the number of automobiles in the country at the end of 1905.

* * *

THE "Annuario dell'Automobilismo" for 1906 of the Touring Club of Italy, published at Milan, contains a list of the automobile owners of Italy on December 31, 1905, followed by a statistical table showing the number of automobiles in use at that date, which latter is summarized here.

	Private.	Public.	Commercial.	Total.
Northern Italy.....	1502	16	3	1521
Central Italy.....	469	2	—	471
Southern Italy.....	102	26	—	128
Insular Italy.....	53	1	—	54
Total.....	2126	45	3	2174

RUBBER DISCUSSED AT THE BRITISH ASSOCIATION.

MUCH interest has been excited by the presidential address of Professor Wyndham Dunstan, before the Chemistry section of the British Association—the most notable scientific institution in the United Kingdom—at the recent annual meeting at York. The newspapers emphasized the sentence: “Chemists may, however, confidently predict that before the British Association again meets at York the synthetic production of rubber will be a fully accomplished fact.” It should be recognized that this statement was by no means the keynote of Professor Dunstan’s address, as president of the Chemistry section of the association. His topic was: “Some Imperial Aspects of Applied Chemistry.”

The speaker dwelt on “the importance of our science [chemistry] in one or other of its many relations to national and Imperial affairs, and to invite your attention to the intimate connection of our science with the problems that await solution in connection with the utilization of the raw materials and economic products of our colonies, and especially those of our tropical possessions. There is a pressing need that the Imperial government should recognize much more fully than it has hitherto done, and at least as fully as foreign governments are already doing, the claims of scientific investigation to be regarded as the pioneer instrument of this work, and as the essential first step in the material and commercial development of our possessions. Although my remarks will be chiefly directed to the importance of chemistry in this connection, my plea will be more general; inasmuch as in determining the value of the mineral resources of a country, other specialists are also concerned, and the assistance of the geologist, the mineralogist, and eventually of the metallurgist may be required. Similarly with vegetable and agricultural products, the services of the economic botanist and of the entomologist will be needed.”

The importance of agriculture in the vast colonial resources of the empire was dwelt upon, in the course of Professor Dunstan’s address, during which he said:

TROPICAL AGRICULTURE.

A CHEMIST working in the spirit of an investigator will be able to render special services to the cause of tropical agriculture, and it is, therefore, of importance that in future the men appointed to these posts should be chosen as far as possible on account of the promise they have shown as investigators. The determination of the constituents of little-known indigenous plants as the first step towards ascertaining their economic value is another department of work which cannot be carried out without a chemist, and the same applies to the examination of poisonous plants, and also of minerals, in addition to the determination of the composition of foods and feeding stuffs; as well as the investigation of the nature and capabilities of the soil by actual experiment, for which well-organized experimental stations are a necessary part of every agricultural department. Another duty is to convey to the natives, chiefly by means of demonstration, the results of this experimental work, so that they may be persuaded to make it a part of their agricultural practice. This applies especially to tropical agriculture.

PLANTING OF PARÁ.

UNTIL recently the supply of rubber came chiefly from two sources—the forests of Brazil, which contain the tree known as *Hevea brasiliensis*, furnishing the Pará rubber of commerce which commands the highest price, and the forests of Africa, where climbing plants, generally of the *Landolphia* class, also furnish rubber. The increased demand for Caoutchouc has led to the extensive planting of the Pará rubber tree, especially in Ceylon and in the Federated Malay States. Systematic cultivation and improved methods of preparation are responsible for the fact that the product of the cultivated tree, which begins to furnish satisfactory rubber when six or seven years old, is now commanding a higher price than the product of the wild tree in Brazil. It is estimated that within the next seven years the exports of cultivated India-rubber from Ceylon and the Federated Malay States will reach between 10 and 15 million pounds annually, and that after 15 years they may exceed the exports of the so called wild rubber from Brazil. The services which chemistry can render to the elucidation of the problems of rubber production and utilization are very numerous. As is well known, the latex is a watery fluid resembling milk in appearance, which contains the rubber, or, as I think more probable, the immediate precursor of rubber, together with proteids, and other minor constituents. The constituent furnishing rubber is in suspension, and rises like cream when the latex is at rest. On the addition of an acid, or sometimes of alkali, or even on mere exposure, coagulation takes place and the rubber separates as a solid, the other constituents for the most part remaining dissolved in the aqueous liquid or “serum.” There are peculiarities connected with the coagulation of the latex which are opposed to the view that it is wholly explained by the coagulation of the associated proteids.

INVESTIGATION OF THE LATEX.

THE experimental investigation of the question on the chemical side is beset with many difficulties, which are increased if access cannot be had to fresh latex. A number of experiments were made at the Imperial Institute with latex forwarded from India, which led to the conclusion that “coagulation” can take place after removal of the proteids, and that in all probability it is the result of the polymerization of a liquid which is held in suspension in the latex and on polymerization changes into the solid colloid which we know as Caoutchouc. For the chemist the important question remains as to the nature of this liquid from which Caoutchouc is formed. Chemistry in this case holds the premier position in reference to this subject, and to a large extent may be said to hold the key to the future of the rubber industry in all its phases. The discovery of better methods of coagulation, preparation, and purification will be effected through chemical investigation, as will also the determination of the manner of utilizing the various other plants which furnish rubber like latices. That the physical properties of raw rubber, on which its technical value depends, are to be correlated with the chemical composition of the material there can be no doubt. Then the present methods of chemical analysis of raw rubber require amelioration.

Although the finest Caoutchouc for technical purposes is only yielded by some half dozen plants, under whose names these varieties of Caoutchouc pass, there can scarcely be a doubt that the elastic substance in each case possesses a very similar, if not identical, chemical structure. Nearly all the latices and similar fluids furnished by plants contain more or less Caoutchouc. Even opium contains Caoutchouc.

MANUFACTURE OF SYNTHETIC RUBBER.

THE production of Caoutchouc by chemical means has, indeed, virtually been accomplished in its formation from isoprene. The exact nature of this change has still to be determined. When this has been done it will only remain to cheapen the cost of production to make the manufacture of synthetic rubber a purely practical problem. I should be the last to discourage the great extension of rubber planting which is now taking place. It is warranted by the present demand for the material. It has also to be remembered that the actual cost of producing raw rubber, which is at present about 1 shilling per pound, will probably be reduced, and the market price of rubber may eventually be so considerably lowered that, as with quinine, the synthetic production could not be profitably carried on. That is a question which involves many factors at present unknown, and only time can decide. Chemists may, however, confidently predict that before the British Association again meets at York* the synthetic production of rubber will be a fully accomplished fact.

As I have said, our science is concerned with nearly every problem connected with the great rubber industry, and in concluding these few remarks I may allude to the production of vulcanized rubber, inasmuch as recent experiments of Mr. Bamber in Ceylon appear to show that vulcanization may be accomplished by acting on the uncoagulated latex with chloride of sulphur. If this proves to be practicable, it may mean the transference to the tropics of the subsidiary industry of vulcanization, which is at present carried on in Europe. The chemistry of rubber is to receive special attention of the section at the York meeting. The chemical investigation of raw materials often raises, unexpectedly, problems of great scientific interest. The examination at the Imperial Institute of the seeds of the Pará rubber tree (*Hevea brasiliensis*) has shown that they contain what proves to be a valuable drying oil, and in the course of the investigation it was ascertained that there is also present in the seeds and in other oil seeds an enzyme capable of splitting the oil by hydrolysis into glycerine and the free fatty acid.

* * *

A LENGTHY and most interesting report on the Chemistry of Rubber, read by Mr. Pickles before the Chemistry section of the Association, will receive attention in these pages in a later issue.

ELASTIC MONEY WANTED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The pages of your journal contain advertisements of firms who make rubber that will stretch from 2 to 10 inches. Do you know of any company making 51 bills of rubber that will stretch to 510?

WALTER A. CRAFT.

Brooklyn, New York, August 25, 1906.

* The last meeting of the Association at York was twenty-five years ago. The next is not likely to occur for twenty-five years more.

BRITISH RUBBER NOTES.

THE scheme for the reconstruction of The Dunlop Pneumatic Tyre Co., Limited, referred to more than once in THE INDIA RUBBER WORLD, having been heard by Mr. Justice Joyce, in the chancery court on August 1, has since been sanctioned and will be put into effect. The object is to reduce the nominal capitalization by reducing the item of "good will" in the assets, in view of the expiration of the patents upon which the company relied for many years to maintain their monopoly. All opposition to the proposals, on the part of shareholders, had practically ceased to be heard, and the management is harmonious.

= Mr. Charles Coops has been appointed manager of the Macintosh Tyre Co., Limited, mentioned in the July INDIA RUBBER WORLD (page 309) as having been formed to handle the tire trade of Charles Macintosh & Co. Limited (Manchester). Mr. Coops was originally in the employ of the Messrs. Macintosh, and later was, for a number of years, managing director of the Eccles Rubber and Cycle Co., Limited.

= The accounts of The Leyland and Birmingham Rubber Co., Limited, for the year ended June 30, 1906, show a trading profit of £23,591 19s. 6d. The dividends for the year amount to 6½ per cent.

= Ruberoid Co., Limited, has been registered in London to acquire goods manufactured by The Standard Paint Co. (New York) and Ruberoid Gesellschaft m. b. H. (Hamburg) and to sell the same in Great Britain or elsewhere, and to manufacture roofing, insulating, and other materials. The directorate includes R. L. Shainwald, president of the New York company (who, or his successor, shall be chairman), and G. A. Meyer, managing director of Ruberoid G. m. b. H. The capital is £6000 (= \$29,199).

= Turners & Manville, Limited, has been registered, with £50,000 capital, to acquire the business in asbestos goods carried on by the London branch of the H. W. Johns-Manville Co., and the British Johns-Manville Co., Limited. The directorate includes T. F. Manville, of New York (of the H. W. Johns-Manville Co.), and S. Turner, of Rochdale, England (of Turner Brothers, Limited).

= The India-Rubber Manufacturers' Association, of Great Britain, having addressed the governor of Ceylon on the subject of the desirability of rubber planters registering trademarks for their respective rubber brands, one of the newspapers in Ceylon expresses the opinion that such trademarks do not appear necessary. Estates which send their rubber direct to London usually stamp the sheets with the estate name while the rubber is drying. Many planters, however, sell locally, and Colombo shippers grading their rubber do not keep that from different estates separate. Still the matter is of some interest as indicating the extent to which manufacturers are taking an interest in whatever pertains to the rubber planting business.

= The Gorton Rubber Co., Limited, of Manchester, invited subscriptions for the balance £4770 of their 6 per cent. cumulative preference shares in order to provide further working capital. The concern of course is only a small one as rubber works go, but it has made steady progress in late years and is by no means in the moribund condition predicted of it at the decease of Mr. Harry Heaton, Jr., who was mainly instrumental in breathing life into its dry bones.

PROGRESS OF RUBBER CULTURE.

CENSUS OF RUBBER PLANTING IN CEYLON.

THE proprietors of the *Ceylon Observer*, having finished the compilation of their "Ceylon Handbook and Directory" for 1906-07, give out the figures relative to the great progress which has been made in rubber planting in that colony, the acreage now under rubber, or to be planted in the summer just closed, figuring at 101,000. As recently as May, 1898, rubber planting in Ceylon was represented by an estimate of 750 acres. By May, 1901, the *Ceylon Observer* estimated 2500 acres, while the return to the middle of 1904 gave an equivalent of 11,000 acres. Planting has gone on very rapidly within the past two years, and especially the past twelve months, during which nearly 61,000 acres appear to have been added to the rubber area of the colony.

These compilations have always been made with great care, the "Handbook" giving in detail the names and location of plantation owners, with the acreage of each, thus making their figures capable of verification. Since these figures were made public in Ceylon, it has been suggested that the rubber not included on the systematically laid out plantations—in gardens and small farms, and particularly on native estates, would amount to 15,000 to 20,000 acres more than the first published figures, which relate only to the estates of Englishmen.

RUBBER PLANTING IN MALAYA

THE first annual report of the department of agriculture of the Federated Malay States, by Mr. J. B. Carruthers, states that the number of acres thus far alienated for rubber culture is about 100,000 acres, of which 38,000 acres are already planted (mainly with *Hevea*), as follows:

Acres.		Acres.	
Five years and over.....	6,000	One year.....	6,000
Four years.....	2,500	Under one year.....	16,000
Three years.....	3,000		
Two years.....	1,500	Total.....	38,000

Most of the rubber five years old or older is planted 200 trees to the acre, and in some cases 300 trees, but more recently the practice has been to limit the planting to 175 trees per acre. The number of planted rubber trees of all ages in the Federated Malay States is approximately between 6,000,000 and 7,000,000.

The department has made arrangements to take over from the conservation of forests an excellent plantation of *Hevea*, seven years old, adjoining the public gardens, and this will be used to carry on a continuous and exhaustive series of investigations and experiments into various questions, physiological and economic, in regard to latex and the best methods for its extraction and preparation. The year's production of rubber in the Federated Malay States is estimated at 300,000 pounds—all the result of cultivation.

RUBBER PLANTING IN JAVA.

THE British consul at Batavia reports that considerable attention has been given to the cultivation of rubber trees in Java during the past few years, and at the end of March, 1905, the Netherlands Indian government had 9626 acres planted out with 610,665 trees, while 309,404 plants were at that time being tended in nurseries. The culture of these

trees would appear, says the consul, to give every promise of satisfactory results, and it is reported that orders have been given to bring a much larger area under cultivation.

It is known from other sources that the various problems being upon rubber culture and the collection of rubber are receiving the most thorough attention at the gardens at Buitenzorg, Java. This is particularly true with regard to the studies under way in regard to the nature and treatment of latex.

HIGHLANDS AND LOWLANDS ESTATES.

FURTHER details can now be given in regard to the Highlands and Lowlands Pará Rubber Co., Limited, the formation of which was reported in the September issue of THE INDIA RUBBER WORLD (page 386). The acres of the three estates combined is 14,669, of which 2086 are under cultivation, the amount planted in rubber (with or without other crops) being 1058. The number of rubber trees standing at the beginning of the year was reported as follows:

Eight years.....	26,023	One year.....	23,715
Five and six years.....	58,235	Under one year.....	92,650
Three and four years.....	20,046		
Two years.....	101,862	Total.....	322,614

The older trees are already productive and it is proposed to tap extensively during this business year. Also to plant 5000 additional acres to rubber in the next six years. The secretaries and offices of the company are Messrs. Thomas Barlow & Brother, 28, Fenchurch street, E. C., London.

"CEARA" RUBBER FROM INDIA.

A RECENT circular from Wm., Jas. and Hy. Thompson (London) reports: "We have received a small consignment of smoked cured Ceara rubber taken from trees growing on an estate in South India. The rubber is in the form of very thin wafers and realized 5s. 9d. [\approx \$1.39 $\frac{1}{2}$] per pound. Although very tightly packed the parcel showed not the slightest trace of heat. The rubber was of a very strong nature, stretching almost transparent."

MEXICAN PLANTATION NOTES.

ST. PAUL Tropical Development Co. (St. Paul, Minnesota) was incorporated sometime ago under the laws of Delaware to engage in rubber growing in Mexico. About May 1 last they began the sale of their acreage, with a view to developing what they consider an exceptionally good piece of rubber land on the isthmus of Tehuantepec. The president, M. P. Ryan, and other officers are business men of position in St. Paul. The plantation manager is L. A. Ostien, sometime with the Utah state agricultural college and familiar, by study, with tropical planting problems.

PLANTING "CASTILLOA" IN CUBA.

THE Ocean Beach Fruit Lands Co., organized a little over a year ago at Milwaukee, Wisconsin, with \$25,000 capital, is developing a tract of 1000 acres at Ocean Beach, the American town on Guardina bay, in Pinar del Rio province, Cuba. The purpose is to plant oranges, rubber, and tobacco. This year the company planted 10,000 seeds of *Castilloa elastica*, from trees growing in various parts of Cuba, where they were introduced from Mexico. The officers of the company are representative business men of Milwaukee, and the man

ager, Edward A. Kimmel, was formerly manager of the Mexican coffee and rubber plantation of the Batavia Co., also of Milwaukee. Mr. Kimmel writes: "We have every confidence in the future of rubber in Cuba, and are proud to say that as far as we know, we shall have the first rubber plantation in Cuba."

RUBBER CULTURAL EXPERIMENTS

DR. PETER OLSSON SEFFER, director of La Zacualpa botanical station at Escuintla, Chiapas, Mexico, since its estab-



PLANTATION HOUSE ON A LARGE PRIVATE RUBBER ESTATE IN MEXICO.

ishment in December last, for the carrying on of experiments in scientific rubber culture, has gone to the Orient to make studies of a similar character on the older rubber plantations in Ceylon and elsewhere. Dr. Olsson-Seffer has instituted series of experiments in relation to tapping methods, treatment of the latex, and also the effect of selection in the development of rubber trees, all of which will be continued during his absence. It is intended in due time to make public the results of all these experiments.

NORTHERN MEXICO GUAYULE MAD.

THE excitement which followed the discovery of oil in Texas a few years ago has its parallel in the craze which exists throughout northern Mexico over the discovery of rubber in the guayule shrub says a correspondent of the New York *Sun* writing from Monterey. The utilization of the shrub is no longer an experiment. More than \$5,000,000 has been invested in the erection of guayule rubber factories in this region within eighteen months and the investment of several more millions is in prospect.

The guayule plant was until recently regarded as a nuisance, and the arid land on which it grows had little value for any purpose. Now two tons at least of guayule shrubs can be got from an acre, which sell as high as \$100 (silver) a ton. Hence many ranch owners who were land poor have become rich.

Francisco Madero, of Parras, Mexico, is mentioned as the owner of 4,000,000 acres of guayule producing land. He is said to be the largest individual land owner in northern Mexico. He estimates that his land will produce at the first cutting not less than 5,000,000 tons of guayule. At

\$50 gold a ton the shrub would bring him \$250,000,000. In the opinion of experts who have gone over much of this land it will yield at least two tons of the shrub to the acre. That being true, its value is \$400,000,000.

Madero is a rich man outside of his landed holdings, and is the head of a syndicate organized, as the *Sun's* writer hears it, "to fight the Continental Rubber Co.," which is an important New York corporation. There does appear to be competition at least in the buying of guayule shrubs. One company, it is reported, recently paid Eugenio Ortiz, owner of a large guayule bearing ranch in the state of Nuevo Leon, \$200,000 in advance for the product from this land for a period of eight years.

Señor Madero, by the way, is showing his faith in guayule by building factories for getting rubber out of it. He owns two such factories already near Parras, and is having others planned for him, in the state of Zacatecas and elsewhere. The *Sun* refers to the large guayule factories of the Continental Rubber Co., and several smaller ones owned by various parties, and concludes with more stories of fortunes quickly made by selling the shrub:

A number of Americans have made fortunes out of guayule lands since the boom started. Soon after the discovery was made that the shrub was valuable J. H. Sendole of San Antonio, Texas, purchased a ranch of 10,000 acres of land situated between Torreon and Saltillo for \$3000. He recently closed a contract with one of the rubber companies for the sale of all the guayule shrub upon the ranch for \$180,000 Mexican money, which is equivalent to \$90,000 American gold. He still owns the land.

Thomas Hebb, a Texas railroad conductor, came to Mexico about five years ago and purchased a ranch of about 40,000 acres in the Avalos district, state of Zacatecas, for 30 cents an acre. The land was worthless except for grazing purposes. Mr. Hebb found that his property was in the very heart of the guayule growing region. He closed a deal recently for the sale of all the guayule shrub upon the ranch for \$235,000.

HOW GARAGEMEN SAVE TIRES.

IT is a fact well known to everyone who has much experience with automobiles that oil or gasoline will cause disintegration and ruin of rubber tires. That being the case, the greatest care is taken by the conscientious chauffeur when filling his tank or oiling his machine lest there should be a spill or leakage that might some day cause trouble. In the public garages nowadays every precaution is taken to see that every drop of oil goes where it is intended, and that no gasoline is spilled over the floor to generate a vapor that might lead to disaster, or to penetrate a tire and damage it.

Perhaps fire department and insurance regulations have had something to do with this, but, be that as it may, the effect is the same. The floor of every well regulated garage is kept as clean and dry as possible. In most places there are shallow trays that fill the entire space under the automobile. When a motor car is to be oiled a tray is placed beneath it and if any oil should drop it would be prevented from falling on the floor. The operation of oiling completed, the tray is withdrawn, wiped dry and placed aside until needed again. It is next to impossible for harm to come to a tire from oil or gasoline while in a garage.

A STUDY OF FLAT TREAD PNEUMATIC TIRES.

THE flat tread boom, which is now on in full force, has led many to look into the arguments for and against this type, even when they did not intend making a change. Others are interested, without having the time to investigate the matter thoroughly, and have expressed a wish to have the question threshed out. After all, it is not a matter of any great importance; but when one considers the popularity of this type, in the face of the recent demand for round tires, it must have a firmer basis than a passing whim. The round type is, of course, the oldest; and though tires were later made in squares and horseshoe shapes, the tendency for several years has been toward a round section, which shape best distributes the strain.

Let it be got clearly in mind at the beginning, that practically all the flat treads now made, whether Palmer, Gaulois, Imperial, Michelin, Continental, Harburg, Pennsylvania, G & J, or Diamond, are made in a round section, so far as the canvas and strains are concerned. The names just given do not complete the list, either, because every well established tire house is now making flat treads, regularly or for special orders.

It is not known just when the flat tread was first made. Like almost every other commodity, the idea was probably advanced long before it came into real use. The Continental Caoutchouc Co. seem to have first brought the flats prominently forward, the Michelins following closely. They have now been in use for nearly two years in Europe, though the G & J and the Diamond people, who were the first Americans to take them up, have only been making them during the past season. They are still far more popular in Europe than here, though they are coming rapidly into favor with Americans. The presumption has really been against them, and they have not been well advertised in the United States; and their rapidly growing popularity is based upon the recommendations of those who have actually used them. Everybody who has ever used flat treads has a good story to tell of their steadiness, their lasting qualities, and their behavior on skiddy roads.

The disfavor in which flat treads were first held grew out of an apparent weakness, which has no doubt thrust itself upon everybody who looked at them for the first time. This is that a flat tread, built upon a round tire, will necessarily leave thick corners on each side. At first sight, it would seem that the weight of the car, running upon these corners,



FLAT TREAD PNEUMATIC.

would make the tire bend or crimp sharply in the center of the tread, thus destroying the canvas, sooner or later, along that line.

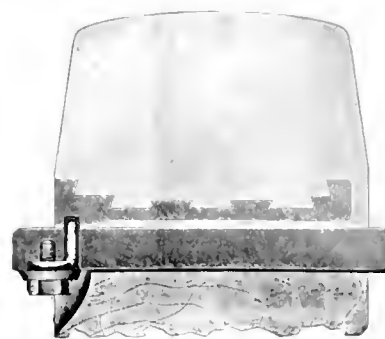
The more a man knows about tires, the more does this criticism appear to him, and the makers admit that such crimping is a possibility, if the tires are run too soft; but having

the canvas built in round section largely removes this slight tendency.

Another objection sometimes brought against flat treads is that they must be molded. Though rarely seen now, it was formerly common for the canvas to be wrinkled or crimped in the mold, thus bringing it very close to the surface in spots, where it soon wore through and burst. Some tire menders claim to have found such flaws in some of the

European flats; but such instances are rare, and are hardly known among American flat treads.

Other criticisms, purely theoretical, are that flat treads are more likely to catch on sharp stones, thus having their edges gonged off very soon, while round tires would

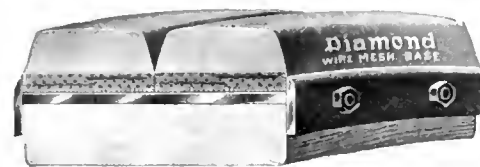


FLAT TREAD SOLID TIRE.

glance off or kick the rocks out to one side. Others think that a heavy side strain, catching upon the tread edge, would have a better chance to tear the rubber loose from the canvas. Some have also advanced the objection that every increase in the thickness of the tread must necessarily take away from the speed and bounciness of the tire, making it ride harder and require more power. Another theoretical criticism is, that the wider the tread and the more the road contact, the more road friction there will be, meaning less speed and resiliency. They feel that when running in mud and on wet asphalt, flat treads would necessarily create more suction. The Collier Tyre Co., who have made a study of this very point, and who, in consequence, have made their tires with narrow, pointed treads, print testimonials reading like this: "My car, owing to your narrow tread tires, raises very little dust, at a time when I have met cars with flat treads raising clouds."

All these criticisms, as we said, are purely theoretical; but they are such that they readily occur to the tire expert, have considerable weight, and have undoubtedly checked the spread of flat treads. As such they must be fairly stated, and balanced against the corresponding advantages.

Those who have actually used flat treads claim for them several distinct advantages; but to



FLAT TREAD TWIN SOLID TIRE.

rightly understand some of these, we must bear in mind the importance of speed as a factor in our reasoning. Thus, where the ordinary horse drawn vehicle wants as little road contact as possible, because the only duty of the wheels is to hold up the vehicle, the tendency is toward narrow tires; but in the case of a motor car, the drive wheels, besides holding up the load, must also push the car, which means that they must have a good grip upon the road. The

higher the speed required, the more important does the matter of road hold become. In the case of motor trucks, which wear solid tires and run slowly, road grip is not usually so important as the danger of skidding, and small road contact is aimed at, to lessen road friction in running. Consequently, the tendency in this case has been away from flat treads toward twin tires, which give less suction, have less road contact, give sufficient traction or road grip for their low speeds, and thus very greatly lessen the danger of skidding.

At Ormond Beach, Florida, measurements showed that round tires, when running at high speed, made tracks in the sand not over a quarter of an inch wide. In other words, the tires have not time to flatten and thus secure the necessary road hold. Consequently the drive wheels spin around, losing much motion, throwing up clouds of dust or tar and chafing the tires so that they heat and burst.

Thus it was for the use of racers that flat treads were first made. Running on a smooth track, there were no obstacles to drink, quoting Michelin, and it mattered not if the tread were a bit stiff. What the racers wanted was a good purchase on the ground, so that every turn of the wheels would count, and they found this in the flat tread. Resilience is so unimportant on smooth, hard sand, that the Ormond racers have argued that wooden tires would do as well as pneumatics.

The fact that racers used flat tires appealed to the sporty instincts of many motorists, especially in Europe; but to their surprise, they found, on experience, that this type was well adapted to ordinary tripping, having considerably longer life and being much less apt to skid. The difference in the power needed to drive it is small, and its friends claim that this tire runs steadier and smoother than the round, and that it behaves as well or better on new made road. All agree, however, that flat treads will not do on front wheels, being hard to steer. Users of these tires do not see that they run any heavier in mud, but all agree that they will not skid in mud. As for dust, there seems to be little if any difference. Flat treads allow of abundant corrugation, the principal English flats, as the Palmer and Imperial, having several bold ribs. These ribs lessen the possibility of suction and make the tire practically skid proof, both of which are points of such importance that some of the best tire experts consider them as fully justifying the flat tread type.

Flat tread tires are usually made of stronger canvas than the ordinary type, so that it is not always possible to attribute their greater durability to the flat tread; but some companies, like the Diamond, put the flat tread on their regular type. In such cases the cost is 10 per cent. more, owing principally to the extra rubber; but as the life of the tire is said to be prolonged more than 10 per cent., the extra cost is more than justified. A tire necessarily wears most on the center of the tread, especially on smooth roads; but much of the influence of the flat tread in prolonging life is due to its protecting the tire from punctures and stone bruises, which alone would recommend this type to many drivers.

Of course much depends upon personal likes and dislikes, and the flat tread is undoubtedly better fitted for certain conditions than for others; but unlike most goods, it seems to show up better in practice than in theory.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES

(OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of July, 1906, and for the first seven months of five calendar years:

MONTHS	Belting, Packing, and Hose	Boots and Shoes.	All other Rubber	TOTAL.
July, 1906	\$ 90,875	\$153,252	\$ 235,410	\$ 479,537
January-June, 1906	572,664	461,902	1,568,102	2,602,668
Total, 1906	\$663,539	\$615,154	\$1,803,512	\$3,082,202
Total, 1905	637,102	588,309	1,671,076	2,896,487
Total, 1904	504,666	472,128	1,382,582	2,359,376
Total, 1903	471,684	311,792	1,459,954	2,243,430
Total, 1902	386,105	355,092	1,116,558	1,857,755

THE PROPERTIES OF NANTUSI.

NANTUSI is the name of a vulcanizing agent and preservative for rubber, manufactured under a secret formula, which, after several years of trial, has come into large use in England and elsewhere. It is offered as preventing the superficial cracking of rubber exposed to the atmosphere; adding life to and preserving the quality of the rubber; doing away with the possibility of acidification in sulphur as ordinarily used; and reducing the cost of the mixing. In connection with 20 pounds of fine Pará, for example, instead of 11½ pounds of sulphur, 2¼ pounds of Nantusi are used. While the cost is somewhat higher, the volume of the compound is increased enough to really cheapen the cost per pound. "The use of the cheap grades of new rubber," it is claimed, "is attended with risk of quick deterioration in use (*i. e.*, 'perishing'), and the objection of considerable 'softening' of the uncured scrap upon reworking and calendering. The use of Nantusi modifies both of the above objections very materially." The manufacturers of this material are The Rubber Chemical Co., Limited, Birmingham, England.

PROPOSED NEW ROUTE TO THE AMAZON.

SEÑOR EDWARD MORLEY, of Huigra, Ecuador, writes to THE INDIA RUBBER WORLD that the government of Ecuador has granted a concession to himself and Mr. George P. Altenberg, of Cincinnati, Ohio, to construct a railway from Huigra to Cuenca, Ecuador, a distance of 90 miles, with the right to extend it to the upper Amazon at a point where it is navigable for large steamers, a distance of 150 miles more. Huigra is on the Guayaquil and Quito railway, 72 miles from Guayaquil, the principal port of Ecuador on the Pacific. The completion of the new railways will give a line of 312 miles from the seaboard to the upper Amazon, and facilitate the shipment of rubber, since some of the richest rubber fields of the world will thus be placed practically 3000 miles nearer New York by the use of the route across the isthmus of Panama.

OVERHEARD AT A COLOMBO DENTIST'S.—*Dentist* (to patient): "You have several teeth which need attention," etc. *Patient*: "Oh! you need only do those that absolutely cannot wait, as I would much sooner put the money into rubber than teeth just now."—*Times of Ceylon*.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

COMMUNICATIONS dealing with the progress of the chemistry of rubber were read at the recent York meeting by Dr. Harries of Berlin, Mr. Pickles, and Professor Tilden. As I have not seen anything more than a brief reference I am unable to make any comments as yet. It is noteworthy how in recent years the chemistry of rubber has received notice at gatherings of scientists, notably the International Congress of Applied Chemistry. The British association concerns itself primarily with the purely scientific side and references to Professor Tilden's production of rubber from isoprene are more suited to the atmosphere of the Association meeting than they would be to a gathering of technologists who are concerned with the financial aspect of discoveries. One continually meets people who talk about the fortune in store for the manufacturer of artificial rubber, but to my mind there is nothing in it in these days of Pará plantations.

THE BRITISH ASSOCIATION.

A FRIEND of mine who has business relations in Egypt and who has recently returned from a prolonged stay at Omdurman says that the Soudan rubber industry, of which so much was expected, has come to nothing. The little business there is in the hands of the Soudan government and it appears that at first the trees were ruthlessly destroyed in obtaining the rubber. The main point, however, seems to be that there is very little rubber to be had and the Nile is not likely therefore to be used as an outlet for the rubber export trade. Turning to another quarter of the globe, I am informed by a man who has been many years in Ceará that the natives who return there after their work in the Brazilian swamps are showing a tendency to smoke the Ceará rubber after the method adopted for Pará rubber. With regard to the impurities in Ceará rubber, these could be removed before export if it was considered worth while. The exporters say, however, that the difference in price does not recompense them for the trouble of preparing it free from bark, etc., and the initial attempts at reform were not persevered with.

CONTINUOUS BRAKES FOR FREIGHT TRAINS.

IN a recent number of THE INDIA RUBBER WORLD I saw a notice that after a certain time the use of continuous brakes will become compulsory on freight trains in America, or at any rate in some parts. The topic has an interest for the rubber trade because it means an extended use of the rubber pipes. So far it appears that in this country the North Eastern is the only railway to use continuous brakes on goods trains, but the attention of the Board of Trade has been recently called to the fact that many of the railway companies are now running express goods trains timed at the speed of express passenger trains and it is proposed to make it compulsory for such goods trains to be fitted with continuous brakes. This is already done in the case of the new large coal wagons which the North Eastern line are using to take coal from the Durham collieries to the shipping staithes. These wagons hold 40 tons and are run on bogies. They are fitted with the Westinghouse brake, which is used on the North Eastern system in preference to the vacuum brakes. I don't know what is the case at the pres-

ent time, but a few years ago the bulk of the rubber pipes were supplied by Spencer Moulton & Co., of Bradford on Avon. The patent rubber and steel buffer spring of this firm is now in general use on the North Eastern express goods trains.

The leather substitute made by this firm, which has works at Mounton Green, near Manchester, continues to gain in popularity. For some time a business firm of Manchester have been pushing its sale in Spain. Such progress has been made that a special representative for Spain in the person of Mr. R. M. Nosworthy has been appointed. His offices are at Barcelona, whither he has recently proceeded. The exact composition of Pluviusin has not been made public but it is known to be an oxidized oil product quite different from the nitrated celluloses which Pegamoid and one or two other such bodies are composed of. These leather substitutes are finding an increased use in the upholstering of motor cars.

THE PLUVIUSIN COMPANY.

A CERTAIN sentence in a paragraph I wrote last month seems to have been misread by the Editor, who will perhaps allow me to make a correction. When I said that the bootmaker to the King was regularly putting rubber heels on to his ordinary boots sold at 3 guineas a pair I was in no way referring to the boots of the King, about the price and nature of which I know nothing. No doubt I wrote ambiguously but what I intended to convey was that the ordinary boots as supplied to the numerous customers who also patronize the establishment are being largely fitted with a special form of rubber heel.

RUBBER HEEL PADS.

UNDER this heading an interesting letter appears in our August issue. I think it is pretty certain that in a hot climate the slow drying down of rubber to absolute dryness will increase the resin, that is, it will add the resin produced by oxidation of the surface of the rubber to the resin originally present as derived from the tree. Though these resins are not similar it would be an extremely difficult matter to determine the quantity of each present in any sample of rubber. I am not now writing a scientific article for criticism by experts, and so when I do so I may have to modify my statements. It seems clear, however, that rubber which has been practically deprived of its moisture will, if exposed to the oxidizing action of the air or particularly to the sun's rays become resinous on the surface and thus deteriorate in quality. Undoubtedly the greater the attenuation of the rubber sheets the greater will be the oxidation under conditions favorable to it. I am not quite sure what the author of the letter means when he says that the inside of a piece of *Castilloa* rubber which still contains moisture answers all the visual and tactual tests of fine Pará. If it means that the rubbers look the same such a test has no significance nor does a tactual test amount to much unless scientifically carried out. But leaving this aside if it is his contention that the damp core is much better rubber than the oxidized outside I agree with him and here we have clear evidence of the action and the adverse influence of oxidation.

WHENCE THE RESIN IN RUBBER?

It is agreed on all hands that the game has increased in

favor during the last year or two after a temporary decline, and there is no doubt that the number of balls sold this season is as great if not greater than in any past year of the game's history. The increase of tournaments rather than of actual lawn tennis accounts for this. The bulk of the balls used in tournaments this year have again been supplied by Messrs. Slazenger, though in several cases, notably at Buxton, Ayres balls have been used. That there is a decided difference in the two makes is testified to by the leading players and it is a useful excuse for a player who has done badly at a tournament with Ayre's balls to say that he has been accustomed to play with Slazenger's. I remember once noticing in an Italian shop, I think it was in Florence, some balls covered with red felt instead of the usual white. At the time I thought it was the outcome of the maker's fancy but I am informed by officers stationed at Malta that they always use red tennis balls there as they are better suited to the glare of the sun. They are supplied, it appears, by both the firms referred to above. It must be remembered that practically all the continental courts are of the gravel or cinder type, grass being very exceptionally met with, so the scarlet ball is not so startling as it would be on green grass.

THE changes made in the management of this firm after the somewhat unsatisfactory report at the annual meeting in 1905 seem to have worked well.

LEYLAND AND BIRMINGHAM
RUBBER CO.

At the meeting held in Leyland on August 10, Mr. James E. Baxter presiding, it was announced that the trading profits were £23,591, compared with £9,508 in 1905. According to the chairman this satisfactory result was mainly attributable to keeping up the quality of the goods and of sticking out for prices in accordance with the cost of the raw rubber. Incidentally the fact was mentioned that the users of rubber had increased 20 per cent. in the last year while the crop increase had been very small indeed. The increased demand was mainly for motor tires. Judging from the melancholy state of affairs in the proofing trade, as shown by certain British firms, it is not surprising that the chairman had nothing optimistic to say in this branch. The dividend passed amounts to 6¼ per cent. for the year.

WHAT A "RUBBER COLLAR" IS.

ONE of the most noteworthy developments of the industry during the last five years has been the fall of the celluloid collar and its rise again as the rubber collar. "As a matter of fact, rubber cannot be used satisfactorily in collars and cuffs, because it is absolutely impossible to bleach rubber to the requisite whiteness," says a manufacturer of some of the more prominent substitutes for linen collars. "If we put enough acid and chemicals into it to bleach it properly the elasticity and life are taken out of the material and the product ceases to be rubber. I know a firm that during the war spent a lot of money experimenting with rubber. There would have been a fortune in it for them if a suitable process had been discovered, but they gave it up as commercially impracticable.

"All the so-called rubber collars and cuffs to-day are either celluloid pure and simple or some combination of cellulose fiber on that order. Three leading concerns in this country

and one in Canada furnish sheets of practically the same composition, but under different names to the manufacturers. When celluloid began to go down in trade estimation about four or five years ago and prices got to \$1.15 a dozen, a chap up in Connecticut near Hartford started in two rooms to manufacture what he called rubber collars and cuffs. He bought his sheets of fiber from one of the three or four big concerns which supplied the regular celluloid trade, put them through a process of his own and turned out collars with a special finish which sold beyond his capacity to manufacture at 35 cents apiece. To this man belongs the credit of making the rubber collar of to-day a commercial success.

"It was not long before the former makers of celluloid and kindred styles caught on, and by means of a new finish the public were induced to forget their former prejudice against celluloid and the prices advanced to \$2 and \$2.25 per dozen and to-day are steady around \$1.75, where there was no business for the same product under the name celluloid at \$1.15."

RUBBER TRADING IN THE WILDS.

LESS than a year ago [writes a correspondent of the New York Herald] I met with and spoke in English to an Italian merchant in the wilds of Matto Grosso, the north-western province of Brazil, whose capital city is five weeks' journey from the seat of government at Rio de Janeiro. For 20 years he had not heard the sound of English voice, and, during all those years, rubber has been flowing through his hands, down the giant river Paraguay, on its way to the markets of the world, via Buenos Ayres or Montevideo. Yet of its actual production he knows but little.

USES OF PONTIANAK.

RUBBER manufacturers who are large users of Pontianak are not apt to boast of it, since a feeling exists in some quarters that it is likely to oxidize and thus shorten the life of the goods in which it has been used. And time was when this was true. Nowadays, however, it is very easy to treat the gum so that it lasts as long as rubber. This being the case, no one can doubt the value of the gum as an assistant in many compounds. One need only appreciate the characteristics of this gum to feel that it would naturally find an outlet in connection with the production of very many rubber products. It is, for example, very plastic, thoroughly waterproof, and of great tenacity. It blends well with India-rubber, crude or reclaimed, and with Gutta-percha, and takes up a certain amount of compound. Almost any line of goods, therefore, that does not demand elasticity can assimilate a certain proportion of Pontianak, and often with advantage. It is, of course, a cheapener, and calls for skill and judgment in its use. It has its friends and its enemies. Manufacturers who a few years ago used it largely, to day do not buy a pound, while others who once bitterly condemned Pontianak, now purchase it by the ton. Handled properly and put where it belongs, it is a most valuable compounding adjunct, but it has its well defined limits, beyond which lies disaster.

F. J. HOLLOWAY, of the Kepitigalla estate, in Ceylon, booked orders for this year's crop of *Hevea* rubber seed amounting to £4333 [= \$21,087].

NEW GOODS AND SPECIALTIES IN RUBBER.

EVER-READY HEAT-STORING BAG

THE illustration relates to a new device, called the Ever-Ready Heat-Storing Bag, which is claimed as an improvement over the hot water bottle. It is made of the best Pará rubber permanently filled with harmless salts which possess heat-absorbing qualities which

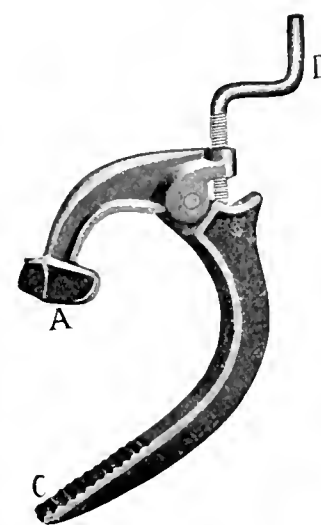
do not soon become exhausted or impaired. When the bag is placed in boiling water the salts become liquefied and remain liquid until heat is desired at any time afterwards, when by a simple device recrystallization is started and dry heat of about 132 degrees F. is developed which lasts for hours longer than hot water. The bag may be boiled again when convenient to store heat for use weeks or days afterwards. The heat lasts

from an hour and a half to ten hours and with ordinary care the bag will last a long time as the salts preserve rubber. It has the further advantage of always being ready, day or night. An even temperature is maintained for hours and there is no moisture; the price that so many have to pay for the luxury afforded by the hot water bottle is severe burns caused by bursting seams and leaky stoppers, but with dry heat this is not to be feared. [Bernard Manufacturing Co., 69 Murray street, New York.]

THE L. & M. TIRE ADJUSTER.

THE reason that so much time is expended in putting on tires is due to the fact that the contraction of the tire at one

point, caused by pressing the ring into place, forces it out at other points. This expenditure is not alone one of time, as much energy is hopelessly lost. Anything that tends to lessen this outgo is something to be considered and adjusters are being introduced into many kits. The L. & M. Tire Adjusters are easy to manipulate and many "swear by them," but not in a profane sense; their use seems to do away with that feature of tire adjustment. Five minutes' time, with no assistance, is the space allotted to perform the task. The illustration serves to

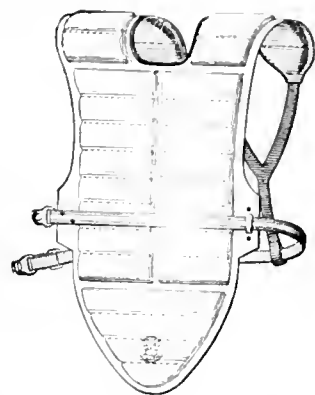


show the position in which the adjuster is placed. "A" should be over the tire $\frac{1}{4}$ of an inch clear of the ring space, and "C" underneath the rim; turn "B" to the right.

This process has to be repeated with the six tools forming the set placed at equal intervals, until the space is made sufficient to allow the ring to slip into place. These may also be used in taking off the tire [Long & Mann, Rochester, New York.]

INFLATED CATCHER'S BODY PROTECTOR.

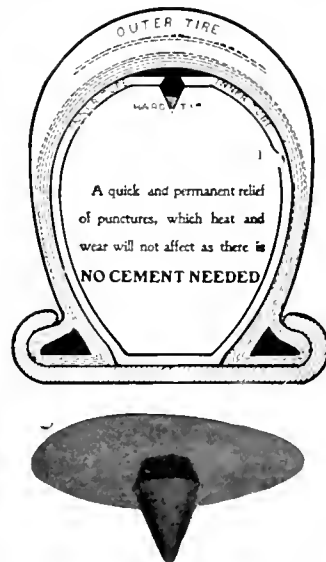
THE 1906 improved patent of the Reach Inflated Catcher's Body Protector has been a boon to the men on the diamond, times without number. So many catchers are injured by being struck on the shoulder or collar bone by foul tips, that it behooves every player in that capacity to protect himself with any armor that would protect and at the same time not interfere with the activities incident to the play. The Reach protectors are light and pliable, made of the very best rubber and inflated with air. When not in use the air may be let out and the protector rolled into a very small compass. This makes it an especially attractive proposition as it is necessary oftentimes for players to have the paraphernalia of the game reduced to its lowest possible amount. That there is a protector of this sort, with all the recommendations of this one is matter for which umpires as well as catchers have reason to be grateful. [A. J. Reach Co., Philadelphia.]



THE P. D. Q. TIRE REPAIR PLUG.

A SPEEDY and effectual means of tire repair has been found in the P. D. Q. Tire Repair Plug. No cement is needed, the whole procedure being to locate the puncture and insert a small plug. The chief factor of recommendation about this plug is that it is made entirely of rubber, no metal being employed in its construction. In inserting it the inner tube has to be removed at the place of puncture only and the tip inserted. However, if the tip is wet with cement the plug will go into place with greater ease. When this simple operation is completed the repair is made and nothing further remains to be done—the tire has taken a new lease of life.

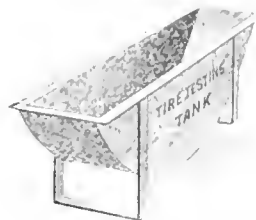
The flange is jammed between the inner tube and the shoe, while the point projects through the inner tube, and is forced against the same by the pressure in the inner tube. The pressure in the inner tube against the point and the pressure of the inner tube against the shoe hold the flange



of the plug in place and jams the inner tube between the point and the flange, which is the secret of the merit of the plug. Wear and heat will not affect it at the point of repair and there is no chance for leakage. [Huntington Automobile Co., Huntington, New York.]

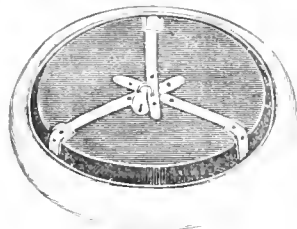
TIRE TESTING TANK.

So many conveniences are being constantly added to the long list already in existence that when something especially desirable appears, one wonders—What next? The Tire Testing Tank is a part of the tire outfit both of the auto and the bicycle, that is fast falling into line as an article of merit. The tank is made with the same curvature as a tire when inflated, and is provided with iron legs riveted on each end, supporting the tank in a level position. When in use it should be filled about three-fourths full of water, and the tire is submerged, after inflation of course. The puncture or leak can readily be located as the air will immediately come to the surface in small bubbles. [J. H. Edwards, No. 59 Park place, New York.]



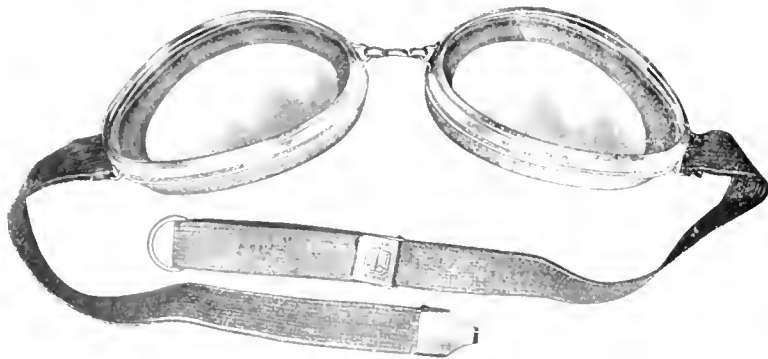
A HANDY AUTOMOBILE BAG

A FRENCH invention that will be appreciated by automobilists is a waterproof bag or box made to fit inside the spare tire when on tour. The little circular trunk, for that is what it really is, does not take up room that would be utilized for any other purpose, and it gives big returns for the space it does occupy. In it may be carried the waterproof garments or other spare apparel of the motorists. If the owner chooses, he may dispose of the box, which the inventor calls a *sac chauffeur*, in some other part of the automobile, as its possible uses are many and it is of a size so convenient that it would not be in the way in almost any part of the car. [L. Vuitton, 1 Rue Seribe, Paris, France.]



THE GOGGLETTE.

SOMETHING new in goggles has been placed on the market recently, which autoists are finding highly satisfactory. A

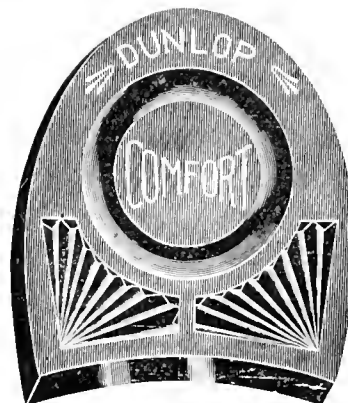


number of features are a pronounced success among them being that of a curved lens. The cups (which are of aluminum) are quite flat, this giving a full and unobstructed view, laterally as well as downward. Where the cups rest against the face there is a small pneumatic rubber cushion to relieve

the pressure upon the blood vessels that might under some conditions be harmful. The cups, too, are ventilated, there being an air space around the entire circumference of the lenses, the air having free access from without and being conducted to the inner surface of the lenses, thus keeping them cool, clear and unaffected by the heat and moisture of the face. A fine mesh inserted between the inner and outer wall of the goggles also prevents small insects or particles of dust from entering the eyes. Aluminum and rubber both lend themselves especially well to washing, hence the goggles from a sanitary standpoint have great value. For convenience in carrying the Gogglette is provided with a double pointed nosepiece so that it may be folded readily and carried in the pocket, while the nosepiece itself can be bent to fit varying pupillary distances. [E. B. Meyrowitz, No. 101 East Twenty-third street, New York.]

TWO NEAT RUBBER HEELS.

THE wearing of rubber heels has become very general in Canada, which is only natural in view of the Dominion being under the British flag, and everybody knows how popular these articles have become in the mother country. To some it might appear that a rubber heel is simply a rubber heel, and that there is nothing more to say. But there are great differences in makes—in form, method of construction, and quality of material. A manufacturer has to take all these into consideration, besides making his goods neat appearing, without making the price too high. Here are shown two attractive styles made by The Dunlop Tire and Rubber Co., Limited, Toronto.



SPRING HEEL CUSHION

A VENTILATED shoe and in connection with this a Spring Heel Cushion, is one of the innovations in the boot and shoe trade, a patent for this having been granted to Mathew Byrne and William G. Young. Below the insole plate and attached to it at the forward end is a cushion plate of rubber with a series of apertures. In the plate is also arranged a series of hollow apertures, these being on the under side. Below the cushion plate and secured to it and the insole plate is a lining and below this is arranged the heel of the shoe which is constructed in the usual way. Where the cushion plate is stitched to the heel insole, it is beveled or tapered, the inner end of the insole plate being also tapered, thus providing for a general rise from the sole portion of the shoe to the cushion portion in the heel. By this construction no unevenness of the insole will be noticeable. The advantages of such a lining will serve to lessen the vibration.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED AUGUST 7, 1906.

- N**O. 827,795. Pneumatic horse collar. J. R. Burkholder, Lancaster, Pa.
 827,719. Ear muffle. J. R. Engleman and O. Partenheimer, Jersey City, N. J.
 827,739. Pipe or hose coupling. C. E. Lingenfelter, assignor to Scully Steel and Iron Co., both of Chicago, Ill.
 827,758. Fountain drafting pen. G. P. Smith and P. Stokes, Philadelphia, Pa.
 827,784. Cushion tire. E. B. Cadwell, New York city, assignor of one-third each to F. Johnston and F. M. Ashley.
 827,797. Horseshoe. M. D. Glassbrooke,
 827,835. Gas main bag. J. H. White, Jersey City, N. J., assignor of one half to A. Bell Malcomson, West Orange, N. J.
 827,910. Apparatus for administering liquid anesthetics. J. A. Hollenberger, Hagerstown, Md.
 827,927. Pneumatic tire. H. D. B. Lefferts, Orange, N. J.
 827,936. Rubber warming and mixing mill. C. F. Obermaier, Yonkers, N. Y.
 827,938. Rubber wheel tire. H. G. Osburn, Hoboken, N. J.
 828,022. Truss. S. A. Donnelly, Chicago, Ill.
 828,178. Bed pan. A. E. Betts, Kensington, Md.
 828,223. Detachable tire rim. H. G. Leisenring, Wayne, Nebr.
 828,241. Cotton gin roller. H. Petersen, Willacoochee, Ga.
 828,243. Hose coupling. J. F. Polmann, Wallington, N. J.
 828,251. Tire. J. H. Swain, assignor to H. M. & S. Armored Tire Co., Inc., both of Pittsburgh, Pa.

Trade Mark.

- 3,500. Standard Underground Cable Co., Pittsburgh, Pa. *Essential feature.*—The word ECLIPSE. For insulated wire

ISSUED AUGUST 14, 1906.

- 828,296. Conveyor. C. K. Baldwin, New York city, assignor to The Robins Belt Conveying Belt Co., a corporation of New Jersey.
 828,415. Bowling-alley pin. T. Mayhew, assignor to American Promoting Co., both of Detroit, Mich.
 828,416. Tire. F. Mesigner, New York city.
 828,562. Hose reel. G. M. Melven, Louisville, Ky.
 828,613. Milking machine. F. A. Lane, assignor to D. H. Burrell & Co., both of Little Falls, N. Y.
 828,641. Tire for motor-cars. I. Clifford, London, England.
 828,666. Oil vaporizer. F. F. Kamme, Waterville, Minn.
 828,701. Tire cover. W. A. Allen, New York city.
 828,704. Rubber printing stamp. L. B. Blackmore, assignor to The Blackmore Engineering Co., both of Arlington, N. J.
 828,705. Cleaning brush. P. J. Bode, assignor of one fourth to C. G. Nagel, both of St. Louis.
 828,712. Atomizer and like instrument. F. C. Dormont Kalamazoo, Mich., assignor to L. R. Williams, Chicago.
 828,841. Locking band for pneumatic tire covers. J. Cottrell, assignor to A. H. Smith, both of London, England.
 828,863. Automobile wheel. A. J. Robertson, Chicago.

Trade Mark.

- 12,734. The Indiana Rubber and Insulated Wire Co., Jonesboro, Ind. The word PARALLEL. For insulated wire, cables, and insulating tape.

ISSUED AUGUST 21, 1906.

- 828,872. Attachment for hair-combs [comprising an air bulb]. U. L. Berger, Washington, D. C.
 828,893. Sectional rim. W. G. Marr, Springfield, Mass.
 828,916. Renovator [with blast nozzle and elastic bulb]. S. E. Allison, Chicago.
 828,920. Fountain pen. G. F. Brandt, assignor of one half to C. Brandt, both of Boston.
 828,973. Fountain Pen. W. W. Sanford, Newark, N. J., assignor of one half to F. D. Bennett, Freehold, N. J.
 829,009. Elastic chain. G. Helps, Nuneaton, England.

- 829,059. Adjustable sick-bed cuspidor. W. B. Campbell, Jackson, Mich.
 829,274. Diving apparatus. F. Knoff, Chicago.
 829,281. Bath cabinet. W. E. Monro, London, England.
 829,327. Rubber eraser protector. W. N. Crisp, Baltimore, Md. *Design.*

- 38,185. Inflatable toy. C. Collier, assignor to A. Behrend and J. Rothschild, both of New York city. *Claim.*—The ornamental design for an inflatable toy.

Trade Marks.

- 1,413. The Standard Paint Co., New York city. The word RUB RINE. For liquids in the nature of rubber in the form of paint and cement coating
 4,653. The Goodyear Tire and Rubber Co., Akron, Ohio. The word GOODYEAR used in connection with a Mercury foot. For rubber tires.
 7,202. The Goodyear Tire and Rubber Co., Akron, Ohio. The word FINDER. For rubber tires
 7,201. *Same.* The word MONARCH.
 7,205. *Same.* The words GIANT HEAVY ROADSTER.
 7,207. *Same.* The words AKRON No. 20
 7,209. *Same.* The words TIP TOP.
 7,210. *Same.* The word EUREKA
 11,090. The Miller Rubber Mfg. Co., Akron, Ohio. For seamless rubber gloves.

ISSUED AUGUST 28, 1906.

- 829,461. Vehicle wheel and pneumatic tire therefor. E. Chaquette, New Rochelle, N. Y.
 829,496. Protecting cover for vehicle tires. R. Walwork, Manchester, England.
 829,546. Packing. P. Schou, Copenhagen, Denmark.
 829,608. Fishing cork or float. H. T. Stanton, Tuxedo Park, St. Louis county, Mo.
 829,741. Swimming shoe. A. Schwalge, Chicago.
 829,840. Gasket. G. C. Bruner, assignor of one half to C. Nussmeier, both of Evansville, Ind.
 829,893. Cornet mouthpiece. M. M. Rubright, Hartville, Ohio.

Trade Mark

- 7,203. The Goodyear Tire and Rubber Co., Akron, Ohio. The word CAJUS. For rubber tires

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 25, 1906.]

- 6,386 (1905). Means for attaching pneumatic tires to the rim. E. Schmitz, Cologne, Germany.
 6,432 (1905). Elastic tire. S. Leech, Loughborough.
 6,452 (1905). Pneumatic tire. J. Stevens, London.
 6,485 (1905). Pneumatic tire. [A band adapted to be wound round the rim comprises an outer layer of balata glued to an inner strip of leather.] J. L. Thiessen, St. Gilles, near Brussels.
 6,492 (1905). Horseshoe. P. B. Cow, F. J. Jelly, and J. J. Gazzard, all of London.
 6,574 (1905). Reservoir pen. C. P. Schultz, Brixton, Surrey.
 6,612 (1905). Pneumatic tire. [Puncture is prevented by lining the inner surface of the outer cover with an undistended layer of coils of rubber tubing.] W. H. Lambert, Silsden, near Keighley, Yorkshire.
 6,641 (1905). Machine for producing pneumatic tire covers. A. E. Vincent, Noisy le Sec, Seine, France.
 6,641a (1905). Apparatus for setting beaded edges of pneumatic tires. *Same.*
 *6,669 (1905). Bath mat. J. H. Pugh, New York city.
 6,678 (1905). Pneumatic tire. [Relates to a ribbed rubber tread, the object being to prevent side slip and puncture.] H. J. Drew, Charfield, Gloucestershire.

- 6,751 (1905). Puncture-preventing device [consisting of an arch-shaped steel band]. A. Sabarini, London.
 6,764 (1905). Heel protector. I. C. Schofield, Halifax, Yorkshire.
 6,810 (1905). Heel protector. J. Wilkinson and A. Wilkinson, both of Manchester.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 1, 1906.]

- 7,021 (1905). Means for attaching pneumatic tires to rims. J. H. K. McCollum, Toronto, Ontario.
 7,081 (1905). Vaginal syringe. S. Watkins, Wolverhampton. (Vidaver Mfg. Co., New York city.)
 *7,120 (1905). Means for separating India-rubber and like gums from woody and other matter by settling. W. A. Lawrence, New York.

- 7,221 (1905). Pneumatic tire. E. Collner, C. Paulitschky, and R. Paulitschky, Vienna.

- 7,243 (1905). Pneumatic wheel. [The wooden felloe is strengthened by metal side cheeks and is recessed to receive the pneumatic tube which supports an outer channeled metal rim, formed in semicircular halves secured together by plates and screws.] H. Peers, Staffordshire.

- 7,336 (1905). Heel protector. J. J. Whitehead, Preston, Lancashire.

- 7,393 (1905). Elastic tire. [A number of blocks of rubber are secured edgewise close together in rows, in staggered relation, upon the wheel.] H. Swales, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 9, 1906.]

- *7,485 (1905). Life belt. [An inflatable rubber tube, contained within a casing, is fitted to the belt by loops and is provided at the ends with means of inflating from the mouthpiece and from a pump.] S. Friedman and A. Hollander, Paterson, N. J.

- 7,547 (1905). Elastic tire. J. Todd and W. E. Gibson, Twickenham.

- 7,553 (1905). Means for attaching elastic tires to wheel rims. A. T. Collier, St. Albans, and Reilloc Tyre Co., London.

- 7,694 (1905). Means of treating India-rubber juice. L. P. T. Morisse, Paris.

- 7,705 (1905). Processes for preparing India-rubber ready for manufacture into articles. L. P. T. Morisse, Paris.

- 7,712 (1905). Dress preservers. W. F. Lucas and W. D. Grinley (trading as W. F. Lucas & Co.) London.

- 7,728 (1905). Elastic tire. W. B. Hartridge, London.

- 7,735 (1905). Elastic tire. W. B. Hartridge, London.

- 7,825 (1905). Pneumatic tire. D. Purves, Southport, Lancashire.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 22, 1906.]

- 8,498 (1905). Invention designed to facilitate the application and removal of pneumatic tires. G. Jonas, Hyde Park, London.

- 8,514 (1905). Leather treated with rubber for tire covers. R. Withey, South Bermondsey.

- 8,536 (1905). Golf ball cleaner. [Rubber cup-shaped receptacle provided with a sponge.] J. D. Patchett, Bristol.

- 8,585 (1905). Means for securing revolvable heel pads to boots. A. Haste and T. Watson, Bradford.

- 8,651 (1905). Solid rubber tire. St. Helens Cable Co. and F. Kenyon, Warrington.

- 8,695 (1905). Golf flag post. Formed of two metal parts connected by a rubber spring. F. C. Lander, Wadebridge, Cornwall.

- 8,750 (1905). Vacuum cleaning apparatus. F. V. Schiödt, H. Hein and H. K. Möller, all of Copenhagen.

- 8,834 (1905). Fraser. W. H. Weguelin, Cricklewood, Middlesex.

- 8,805 (1905). Horseshoe. A. Pawlowski and W. H. Derryhouse, Liverpool.

- 8,802 (1905). Pneumatic cushioning mechanism. [Relates to pneumatic cushions for reciprocating beds of printing machines; cylinders divided by a diaphragm, furnished with apertures covered by rubber flap valves.] A. J. Boulton, London (C. A. McCain, Chicago, Illinois.)

- 8,980 (1905). Football bladder. [Formed of a layer of rubber which is attached to a layer of fabric, to prevent the ball from wearing out easily and also over inflation.] L. Hoff, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 15, 1906.]

- 7,942 (1905). Flower holder. [Consisting of a rubber sheet held between two perforated metal blanks, the rubber being slit in the space unprotected by the metal blanks.] W. H. Wilks, Birmingham.

- 7,966 (1905). Sole and heel protector. A. Tullett, Birmingham.

- 8,086 (1905). Heel protector. J. Wilkinson and A. Wilkinson, Manchester.

- 8,131 (1905). Elastic tire. C. Challiner, Manchester.

- 8,136 (1905). Inflating pump for pneumatic tires. A. Davidson, E. W. Hatfield and H. P. Green, Sheffield.

- 8,204 (1905). Pneumatic tire. [For increasing the resiliency and decreasing liability to puncture, the inside of the tread is fitted with a rubber portion, a metal band covered with fabric, and a fabric liner vulcanized in position.] W. C. Baker, Wokingham, Berkshire.

- 8,289 (1905). Elastic tire and means of attachment to rim. J. W. Cann, Folkestone, Kent.

- 8,319 (1905). Hose pipe. F. Reddaway & Co. and T. T. Powell, Pendleton, Manchester.

- 8,378 (1905). Utilizing waste India-rubber. [Consists in recovering waste vulcanized rubber by means of aniline and naphtha.] H. R. Gregory, London, and T. M. Thom, Hertfordshire.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 360,324 (Feb. 20). L. Morisse. Preparing rubber, etc., from the milk.

- 360,325 (Feb. 20). L. Morisse. Process for making articles of rubber, etc., directly from the milk.

- 361,169 (Dec. 29, 1905). E. Francon. Elastic tire.

- 361,234 (Dec. 30). Roger Labbe et Montais. Skid tread.

- 362,192 (Jan. 5, 1906). Firme Linoleum werke Delmenherst, Linoleum.

- 362,154 (Jan. 3). S. Baland fils aine. Spring wheel.

- 362,227 (Jan. 8). J. A. Schweitzer. Ventilator for inner tubes.

- 362,232 (Jan. 8). Van Minnegesode. Skid tread.

- 362,295 (Jan. 9). G. L. Willaine. Elastic tire.

- 362,317 (Jan. 10). E. Levi. Spring wheel.

- 362,365 (Jan. 12). Falconnet-Perodeaud. Elastic buffer or shock absorber.

- 362,391 (Jan. 13). J. Rusp. Spring wheel.

- 362,869 (Jan. 31). F. Weith. Vulcanizing mold for tires.

- 362,887 (Jan. 31). Pfeurmer. Anti-puncture compound.

- 362,925 (Feb. 1). Gayner. Process for mending cut tires.

- 362,973 (Feb. 3). A. Sauvage. Puncture and skid proof tire.

- 362,993 (Feb. 6). E. Bry. Applying beads to tire covers.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

FILLING TIRES WITH SAND.

"I FIND," said a man who has not yet come to own a buzz wagon, says a New York newspaper, "that automobile tires are sometimes filled with other things than air. Down on the Jersey coast the other day I saw a man filling a tire with sand.

"This tire had apparently—for the men in the auto appeared to be cool and competent men who knew what they were about—become broken in such a manner that it could not be repaired to stand inflation on the spot, but they wanted something in it and so they filled it with sand. At the place where they were when the tire collapsed the road ran close to the ocean front, and they took the tire off the wheel and one of the men climbed with it down the bulkhead to the beach and there he set to work.

"When he had worked in a lot of sand he would hold the tire up and shake the sand down in it and then he would put in some more, and so on till he had the tire filled.

"This was something new to me, but a friend tells me he has seen it done before and that sand in the tire is better than nothing, that it will cushion the tire in some measure at least and keep the machine from pounding down on that wheel with its sheer dead weight."

LEGITIMATE COLORADO RUBBER.

WHATEVER may be said of the Colorado rubber plant, or the production of rubber from it in general, it appears to be certain that one company is not only a firm believer in the possibility of extracting rubber profitably from the *Picradenia floribunda utilis* but is willing to spend its own money for the object and not ask the public to foot the bills. This is the P. F. U. Rubber Co., of Durango, Colorado. To begin with, the company have already extracted some rubber and the writer of this article has had small samples and it is only fair to say that it looks well. Indeed, to hark back to earlier articles in THE INDIA RUBBER WORLD, it will be remembered that one complaint that we made concerning other companies was, that while they were offering stock for sale, we, at least, could get no samples of the rubber that they claimed to be

these Rocky Mountain states, enormous areas of land lying waste and destined to remain waste until some crop can be found that requires little cultivation, withstands all temperature, and requires practically no water.

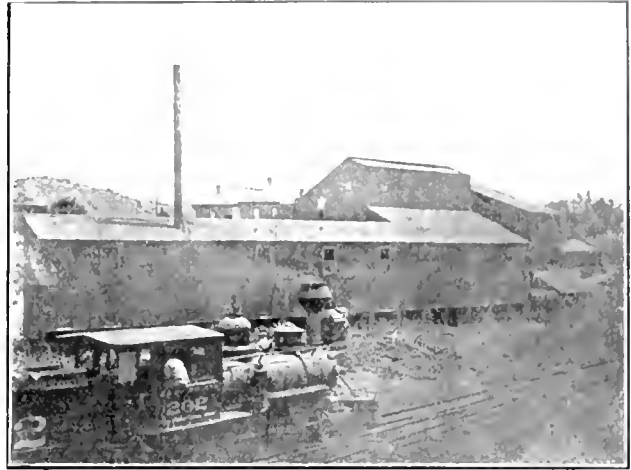
"You would note that the 'pinguay' weed is exactly such a plant and, if a fertile reliable seed can be obtained that



CAMP PINGUAY—RUBBER SHRUB ARRIVING.

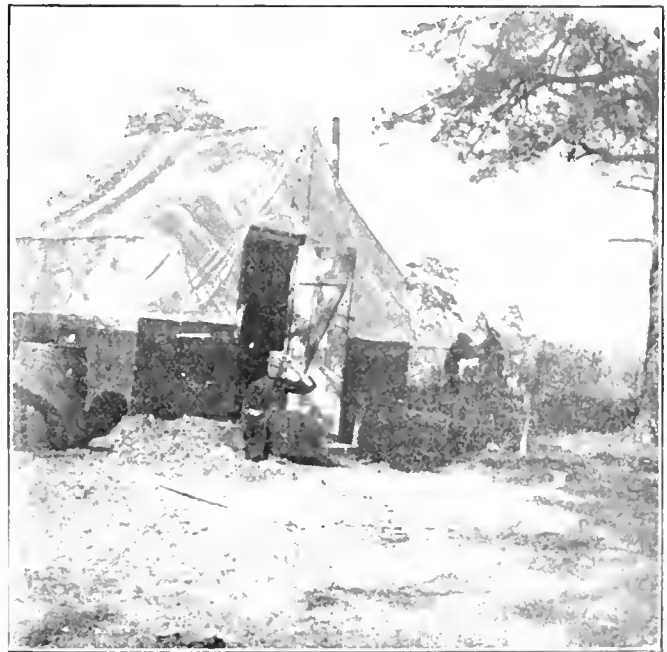
producing. A description of the Durango company's plant and of their wish to cultivate the plant on otherwise waste lands rather than to make use of sparsely covered wild areas of it is exceedingly interesting. Extracts from a letter from Mr. E. C. Dunbar, the manager of the company, are therefore appended.

"If you would come out here you would find the 'pinguay' or Colorado rubber plant, a sample of which you have in your office, growing wild somewhat sparsely, on large areas in this and adjacent states. You would see as we do that any attempt to build up a large industry from the gathering of the wild plant would be an impossibility; you would see, however, that in certain places the plant has rapidly increased in the last few years, and you would note that by far the most important work we have in hand is to determine the conditions under which the plant may be increased and fertile seed produced. You would see for days as you ride through



FACTORY OF THE P. F. U. RUBBER CO.

the area upon which the plant could be grown would be enormous. I do not think I would be exaggerating at all if I were to say that the waste land of the Rocky Mountain states could readily be made to produce sufficient gum to supply the entire American market, if this seed problem was solved. As you know, the last Congress gave us the use of some 5400 acres of this arid land, upon which to experiment. This experimental farm is on the Fort Lewis mesa, 15 to 20



CAMP PINGUAY—MANAGER'S TENT.

miles south west of Durango, and is admirably adapted for the purpose involved. We have established Camp Pinguay, from which I am writing, as farm headquarters, and have as farm superintendent, Mr. W. M. Peterson, for many years a superintendent in the Indian service. We have employed the Navajo Indians in the gathering of the roots; we have experimented with Mexicans and intend to try Japanese. You will appreciate that at present the cost of the labor in gathering the roots is by far the largest item in the ultimate cost of the rubber gum, and that when this becomes a farmers' product, the labor will be as inconsiderable as the labor connected with harvesting alfalfa.

"The process is extremely simple and is in charge of Mr. Henry Konker as superintendent. The process follows closely along the lines of linseed oil extraction, with which work Mr. Konker has been identified since its inception. While further experiments will undoubtedly lead to the production of a better gum, the gum we are now able to produce has a very high amount of vulcanizing power and a small ad-



CAMP PINGUAY—BAILING WEED.

mixture of it renders the rubber made from reclaimed rubber unusually tough and elastic. It has a very much higher vulcanizing power and is a very much better gum in every way, than any Guayule gum that the writer has seen.

"To sum up, this company aims to produce a seed of the pinguay weed, which farmers can use; its aims to evolve a satisfactory process for cheaply extracting the gum; it hopes by selection and hybridization to improve the quality of the pinguay gum and increase the yield per plant; it also hopes to extend the area within which the pinguay grows, so that instead of it being grown in no lower altitude than 6000 elevation, as is the case in its wild state, that it may be made to grow at a much lower altitude. It hopes ultimately to make the United States independent of all foreign countries for its supply of crude rubber gum."

MORE RUBBER COMING FROM BOLIVIA.

THE output of rubber from Bolivia is again showing an increase. Below are given figures for nine years, derived from official sources. For a few years, after the production in the Acre district became important, the figures fluctuated, the political troubles there sometimes checking the export of rubber. For the last two years covered by the table the Acre production has not been included, as that district now belongs to Brazil. As will be seen, the 1904 output exceeded that of the previous year by more than 500 tons:

	Pound		Pounds.		Pounds.
1896.	2,500,566	1899.	4,708,000	1902.	4,186,585
1897.	3,683,275	1900.	7,691,728	1903.	2,906,274
1898.	6,913,100	1901.	7,923,138	1904.	3,453,182

[a—1 excluding the Acre district.]

The government of Bolivia is constantly in receipt of petitions for grants of rubber concessions. In the department of La Paz 51 such petitions were registered in the latter half of 1904 and 84 during 1905. In the department of Cochabamba 31 petitions were filed in the first half of 1905. Altogether, these related to 38,769 *estradas* (groups of 150 *Hevea* rubber trees).

The yield of rubber per tree in the Amazon regions has always been a matter of uncertainty. It may be of some interest in this connection to note that an official report on rubber production on the rio Beni for one year shows 459 *estradas* to have been worked by 401 *picadores*, the production being 300,509 pounds. This would average 671½ pounds for each worker during the year, and 674½ pounds per *estrada*. Assuming 150 trees per *estrada*, the average per tree would be a trifle less than 4½ pounds, but it is understood that very many *estradas* have less than the legal number of trees.

UNION MADE POLICE RUBBER GOODS.

THE following extract from the New York official *City Record* relates to a pretty good sized order. It may be of interest, also, on account of the reference to union labor:

Ordered, That the proposal of HENRY V. ALLEN & Co. of No. 734 Broadway, Borough of Manhattan, to furnish caps with detachable cloth cape and rubber cap covers with cape for the use of roundsmen, patrolmen and doormen of the Police Department, for the sum and price as follows, be and is hereby accepted:

Caps with detachable cloth cape, each..... \$2.65
Rubber cap covers with cape, each..... .75

Such caps and rubber cap covers to be made conformable with the sealed sample on deposit in the bureau of clothing and equipment, and to be strictly union made throughout, each and every cap to contain the union label.

THE Bulgownie Rubber Estates, Limited, own the Bulgownie rubber and coffee estate in Selangor, Malay States. Between October and March 3200 *Hevea* trees, the oldest not over 5½ years, were tapped lightly and yielded 1740 pounds of dry rubber. During the current business year it is hoped to obtain about 6150 pounds from 7150 trees, some of which will be 6½ years old by next March.

THE United States consul general at Rio de Janeiro, Brazil, reports an increasing import of rubber from that port. The variety is "Mangabeira," the total imports of which, from the whole of Brazil, were smaller in 1905 than in the year previous.

LITERATURE OF INDIA-RUBBER

HEVEA BRASILIENSIS, OR PARA RUBBER: ITS BOTANY, CULTIVATION, CHEMISTRY, AND DISEASES. By Herbert Wright, A.R.S., F.E.S., Controller, Government Experiment Station, Peradeniya, Ceylon. Second Edition. With plates and diagrams. Colombo: A. M. and J. Ferguson, 1906. Cloth, 8vo. Pp. xiii + 179; plates. Price, at Colombo, 7 shillings.]

THE rubber planting interest cannot fail to be benefited by the work which Mr. Wright, with commendable painstaking, has done in bringing out this book. He has not assumed to offer a complete compendium of knowledge regarding the rubber species to which his work relates, nor yet an infallible planters' manual. But he has brought together very many facts, a study of which permits generalizations of value to be made, though as a rule the author leaves the generalizing to be done by the reader. As an illustration, instead of going on record as to the normal average yield of a *Hevea* tree under given conditions, the author presents detailed results obtained on a number of plantations in Ceylon, from trees of different ages, under various methods of tapping. The figures given appear well authenticated, and the inference appears not unreasonable that if certain yields are derived from one plantation, something similar may be expected from other trees, similarly circumstanced.

Mr. Wright, as a member of the government scientific service in Ceylon, has availed himself of an opportunity for an extensive personal observation of rubber trees under cultivation in that part of the world. Beyond this he has depended upon the work of other investigators. But his book gives evidence of an industrious consultation of authorities, whose statements are referred to so definitely that the reader, if he wishes, may easily consult the original sources of information.

Beginning with a history of the introduction of Para rubber in the Far East, this book sketches the development of its cultivation until it has reached very large proportions. The climatic conditions favorable for *Hevea* are discussed; questions of soil and fertilizing; methods of planting and the care to be given to the young trees; tapping operations and implements; how and when to tap, and on what part of the tree, and many related questions. There is a chapter on the physical and chemical properties of latex, followed by one on the production of rubber from latex. The drying of rubber is discussed, and its physical and chemical properties, the purification of rubber, etc. The vulcanization and uses of rubber are discussed, to enable the reader better to appreciate what follows in relation to plantation rubber as compared with "wild" rubber, analyses of different rubbers, and such like topics.

The diseases of the Para rubber tree take up a chapter, and the book ends with estimates of a number of Ceylon planters on the cost of growing rubber. These appear to have been prepared with much care, but the author does not commit himself, and nowhere in the volume is the question of profits dealt with. Mr. F. J. Holloway's estimate for a rubber plantation of 300 acres, to the end of the sixth year, is \$23,350, or \$77.83 (gold) per acre, exclusive of cost of the land, about \$16.67 per acre.

Mr. Wright's book has been considerably enlarged and broadened in this second edition, and the excellent half tone illustrations have been doubled in number. We may perhaps best conclude this notice by quoting from the author's preface: "The whole industry, especially as far as the pro-

ducers are concerned, is in its infancy, and though our knowledge regarding the function of the latex, the effect of removing cortical tissues and latex from the plant, the methods of extracting latex, yields obtainable, and the production of rubber from latex, is considerable, one must be prepared to give up present day ideas and commence work on new lines, whenever the latter has been shown to be worthy of adoption." The book before us would be of value, if it did no more than suggest to planters what is involved in the rubber cultural proposition.

IN CURRENT PERIODICALS.

DER neue Kautschukbaum *Euphorbia elastica*. By Dr. Rudolf Endlich. [Description of the Mexican "Yellow tree" as a rubber producer. See THE INDIA RUBBER WORLD, February 1, 1906—page 148.] *Der Tropenpflanzer*, Berlin. N. S. (Aug. '06). Pp. 525-531.

Wie Verveelddigt man den Kautschukbaum (*Ficus elastica*). By Prof. A. H. Berkhout. [Multiplication of the *Ficus elastica* in the Dutch East Indies by means of marcottage.] *Der Tropenpflanzer*, Berlin. N. S. (Aug. '06). Pp. 505-516.

Les Essais de Culture de Caoutchouc dans le Bas Congo Français. By Berthelot du Chesnay. [Relates to *Manihot*, *Castilloa*, *Kirkia* and *Hevea*, showing the superiority of the latter.] *Journal d'Agriculture Tropicale*, Paris. VI 61 (July 31, '06). Pp. 195-199.

NEW TRADE PUBLICATIONS

UNDER the title "Some Comments on Air Brake Hose," BOSTON BELTING Co. issue a brochure of much interest in relation to a report on tests of air brake hose presented at the June convention of the Master Car Builders' Association, pointing out wherein such tests might have been of more value if conducted on a different basis. [3½" x 6". 12 pages.]

THE IMPERIAL RUBBER Co. (Beach City, Ohio) issue a well got up and interesting catalogue of Druggists' Sundries, together with bath caps, sponge bags, and the like. It is their Catalogue No. 5. [5¼" x 7½". 32 pages.]

ALSO RECEIVED.

THE Bissell Carpet Sweeper Co., Grand Rapids, Michigan. [Bissell's "Cyclo" Bearing Carpet Sweeper.] 16 pages.

Ardrey Vehicle Washer Co., Rochester, New York. =Ardrey Vehicle Washer. 10 pages.

A. G. Spalding & Brothers, New York. =Spalding Catalogue of Spring and Summer Sports. 1906. 130 pages.

Hopewell Brothers, Boston. =Automobile Fabric Supplies. 16 pages.

The Xylotite Manufacturing Co., Cincinnati, Ohio. =Xylotite Pulleys. 56 pages.

Dr. H. P. Coile, Knoxville, Tennessee. The Coile Bath Tub Described and Illustrated. 16 pages.

The Stamford Rubber Supply Co., Stamford, Connecticut. Stamford Substitutes. 8 pages.

The Rubber Chemical Co., Limited, Birmingham, England. =Concerning Nautusi [a vulcanizing agent and preservative]. 8 pages.

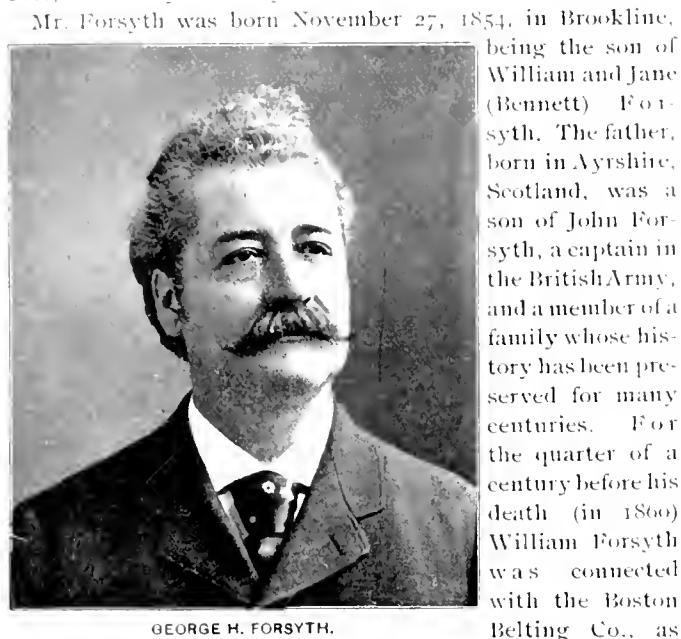
Joseph Dixon Crucible Co., Jersey City New Jersey. =Unions for Steam Pipes. [With points on the use of graphite.] By W. H. Wakeman. 10 pages. A Concise History of Lead Pencil Making. 8 pages.

The Motz Clincher Tire and Rubber Co., Akron, Ohio. =The Motz Club. [Descriptive of Motz tires; issued from New York selling agency.] 10 pages.

The Mellroy Belting and Hose Co., Chicago. =Facts About Rubber-Belting. 16 pages.

OBITUARY.

GEORGE HENRY FORSYTH, for many years a director and assistant manager of the Boston Belting Co., died on September 6 at his home in Brookline, a suburb of Boston, after an illness of over two and a half years. The end, however, came very suddenly.



GEORGE H. FORSYTH.

Mr. Forsyth was born November 27, 1854, in Brookline, being the son of William and Jane (Bennett) Forsyth. The father, born in Ayrshire, Scotland, was a son of John Forsyth, a captain in the British Army, and a member of a family whose history has been preserved for many centuries. For the quarter of a century before his death (in 1860) William Forsyth was connected with the Boston Belting Co., as were three of his sons after him, including James Bennett Forsyth, the present general manager.

George H. Forsyth became connected with the rubber company and continued active in affairs thereafter until forced by declining health to devote less attention to business. He traveled extensively in the interest of the company and was well known to many prominent business men throughout the United States, by whom he was highly esteemed.

Personally, George Forsyth was wonderfully attractive. Of medium height, with a well knit figure, dark eyes, regular features, and thick wavy irongray hair, he was always a striking figure, and withal a manly one. He was alert, capable, exceedingly businesslike, and up to the time that his last illness laid hold of him possessed of a cheery manner and brilliant smile that acted as a tonic on all about him. The disappointment and sorrow of his brother, Mr. James Bennett Forsyth, who had made him assistant general manager and who had planned to eventually turn over much of the detail of the great business to him, in this disaster to his fond hopes, may be imagined. The strong hold that the late Mr. Forsyth had upon the trade was abundantly shown by the many telegrams and letters of condolence sent to his mourning relatives and by the magnificent floral offerings that came as last tributes of respect and affection.

At a special meeting of the executive committee of the New England Rubber Club, in Boston, on September 7, the following resolutions were passed in relation to the death of Mr. Forsyth, and a committee was appointed to attend the funeral services, as a mark of respect to its late member:

Whereas, God in His infinite wisdom has taken from us our friend and fellow member, George Henry Forsyth, we, representing the New England Rubber Club, hereby adopt the following resolutions:

Resolved, That in the death of Mr. Forsyth, our Association has lost one of its most highly esteemed and beloved members.

Resolved, That the rubber industry has been deprived of one of its most respected and valuable members—kind and affable to all, honorable in his dealings, and always a friend to those in trouble. Associated for many years with a large and successful enterprise, widely known and highly esteemed, his taking away has left a deep regret, his memory will live with us always.

Resolved, That we extend to his family our appreciation of his high character and our great sympathy in their loss.

ALEXANDER M. PAUL, President.
ARTHUR W. STEEDMAN, Vice-President.
FREDERICK H. JONES, Treasurer.
HENRY C. PEARSON, Secretary.
ROBERT L. RICE, Assistant Secretary

Funeral services were held on Sunday, September 9, at St Paul's church, Brookline.

Boston, September 11, 1906.

New England Rubber Club,
Henry C. Pearson, Secretary,
New York, N. Y.

MY DEAR MR. PEARSON: In behalf of the family, I wish to express to the officers, executive committee, and members of the New England Rubber Club our thanks for the beautiful floral tribute sent for my brother, George H. Forsyth.

We also deeply appreciate the kind words and expressions of sympathy contained in the resolutions prepared and adopted by the Club.

Such kind and thoughtful consideration has touched us all deeply.

With much gratitude, I remain, Sincerely yours,

JAMES BENNETT FORSYTH.

* * *

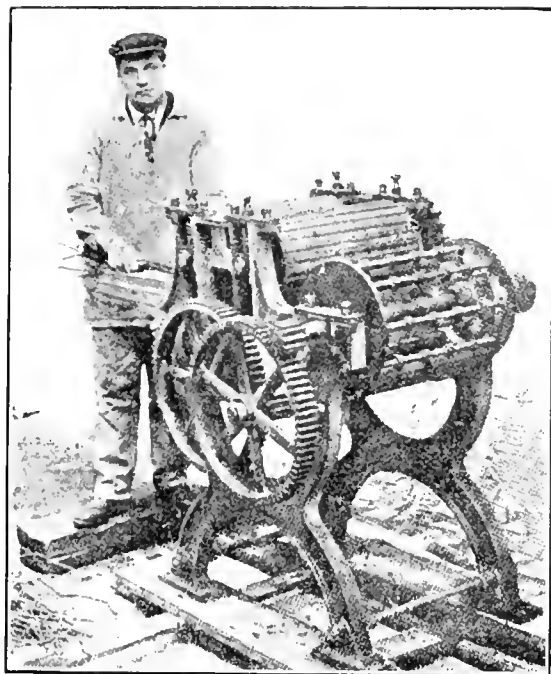
HENRY KEENE, who for three years was secretary of and a director in the Rubber Goods Manufacturing Co., died in New York on September 9, after having been confined to a room in the Holland House as a result of a cold contracted at the time he was rescued from a burning building last year. He was a brother of James R. Keene, the financier and turfman, born in England and taken by his parents to California in 1853; educated at Williams College; for some years on the Springfield (Massachusetts) *Republican*; in a banking house in Paris; and later in America held many positions of trust, such as that of secretary of the Equitable Gas Co., in New York. He joined the board of Rubber Goods Manufacturing Co. with the advent of the so called "Keene interest," in 1903, and as such became a director in a number of the subsidiary companies.

A DEADLY GOLF BALL.

TREASURER F. C. HOOD, of the Hood Rubber Co., was witness of a strange event last week, the decapitation of a flying bird, by a golf ball. He was playing a match with R. A. Leeson, and that gentleman had just finished his swing of the club at the fourth tee, and both were watching the course of the somewhat highly driven ball, about thirty yards from the tee, when they were surprised to see the ball strike a bird in full flight. The head was decapitated from the body of the bird just as cleanly as though a knife were used. The ball continued for more than 100 yards. Though a golf ball has been the cause of some remarkable happenings, members of the club were surprised when told of the affair, for they had no idea that there was such a carrying power to a golf ball.—*Boot and Shoe Recorder*.

RUBBER DECORTICATING MACHINE.

SOME machines used in the Congo country of late for decorticating rubber yielding *lianes* or creepers have developed a very satisfactory degree of efficiency. One such machine, illustrated herewith, and made under the patents granted to Félien Michotte, an engineer of Paris, was designed primarily for use on vines of the *Landolphia* species, but it has proved equally applicable to the extraction of "root rubber," or even to working up of young Ceará rubber plants. It has four crushing rollers, about 10 inches in diameter, which receive the butts of the vines or brush, and split and flatten the wood. Following these rollers is a kind of drum formed of ten stout rods, upon which, as axles,



little claw hammers hang. When the drum is rapidly turned, these claws are thrown out by centrifugal force, so that they rapidly hammer and tear the bark from the crushed stems.

The machine, set up, weighs a ton, but it can be taken to pieces, none of the parts weighing over 200 or 300 pounds. Thus it can be easily transported to distant plantations; and when set up, it requires no special foundation or underpinning.

The capacity of the decorticator is something like a ton of stems a day, yielding about 600 pounds of bark. The illustration is derived from *Le Caoutchouc et la Guttapercha*, of Paris.

RUBBER RECLAIMING FOR RUSSIA

TO THE EDITOR OF THE INDIA RUBBER WORLD: It is well known to you that about 8000 tons of old rubber boots and shoes are exported yearly from Russia to America. On March 1 last (old time) an export duty of £10 a ton was laid upon these, making a total revenue of about £80,000 a year.

Let me suggest that a factory be built in Russia to reclaim this stock, since new rubber may be shipped duty free.

I learned in America that the machinery for such a fac-

tory would cost £6000—add to that the cost of plant and buildings, which would be about £5000 to £6000, making a total of £11,000 to £12,000.

Say that we could work up 3000 tons of old stock a year, we could thereby save £30,000 in duty, leaving a clear profit of £18,000 for the first year. In America these old rubber boots and shoes now cost up to 9 cents a pound, while they only cost 5 1/4 cents in Russia. Since these old rubber boots and shoes would cost us so much less than the American rubber factories, we should be able to sell the new rubber to them at an advantage.

A. B. N.

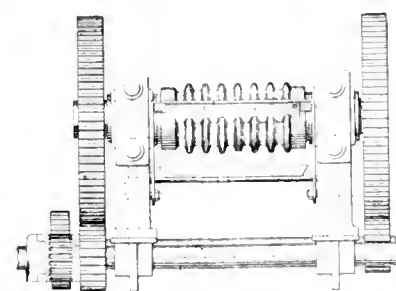
Odesa, Russia, July 21, 1906.

[THE above communication is of much interest. A practical side is given to it by the fact that not a little reclaimed rubber is now produced in Russia, for their own consumption, by the two great factories at St. Petersburg and Riga. But how does our correspondent know that reclaimed rubber could be exported from Russia duty free? There is no such material exported now, and this may explain its absence from the tariff schedules, but a country which taxes the exports of a raw material, such as scrap rubber, might be expected to add to the taxing list reclaimed rubber so soon as the trade in this commodity became important.]

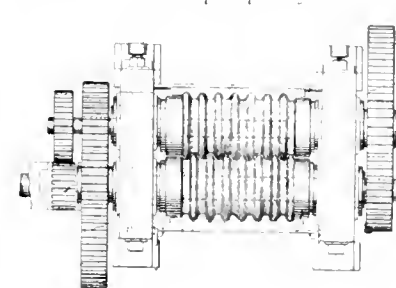
THE EDITOR.]

NEW WARMING AND MIXING MILL.

THE illustrations show two views of what is designed to be an improvement over smooth roll warmers and mixers. Described very briefly, the rolls are heavily grooved, not like "cracker" rolls, but more like the steel



rolls used in iron work. That is, the ridges and grooves run around the circumference of the roll at right angles to its length and are arranged to mesh. As in an ordinary mixer one roll runs faster than the other, and the



contention of the inventor is that by having greater mixing surface in small compass he not only increases the friction but is able to mix very much more stock. A rather curious point that he brings out is that, on account of the difference of speed of the rolls at the periphery and at the base of the groove-angles, the rubber is worked at a different speed in the grooves than it is on the ridges. In other words, the kneading is much more effective and quickly done. If this is the case one would imagine that the rolls might

be difficult to cool unless the water chamber were exceedingly large. Whether or not the invention is practical it is impossible to say without test. It is, however, interesting to see any attempt at variation upon the old time mixing mill. This machine is patented by C. F. Obermaier, Yonkers, New York.

UNITED STATES RUBBER CO. IN EUROPE.

THE organization is announced, in London, of a company, styled William Symington & Co., Limited, with £500,000 capital paid in, the shares of which are all held by the United States Rubber Co. The managing director is William Symington, who has long been engaged in the crude rubber trade in London and Liverpool. The other directors are his brother, Harry Symington, William H. Blackwell, and three officers of the United States Rubber Co.: Samuel P. Colt, president; Lester Leland, second vice president, and John J. Watson, Jr., treasurer. The new company's permanent offices will be at 22, Fenchurch street, London, and 20, Castle street, Liverpool.

The new company will handle the European business of the General Rubber Co., controlling the purchase of crude rubber for the United States Rubber Co. and the affiliated manufacturing concerns. In addition to the offices above mentioned, William Symington & Co. will have charge of the crude rubber buying agencies established by the General Rubber Co. last year at Hamburg, Antwerp, Havre, and Bordeaux. The new company will handle all the African rubbers required by the United States Rubber Co., and, it is understood, will finance the purchases of Pará rubber for the United States company, which, though imported direct at New York, have always been paid for through London. The Symington company will also engage in supplying crude rubber to the British and Continental trade. The new corporation dates from September 1, 1906.

For some time past the European selling dépôt of the United States company has been conducted under the style United States Rubber Co., Limited, at 47, Farringdon street, London. This has control of the sale abroad of the parent company's rubber footwear products. During the past summer an additional selling branch has been organized—the Anglo-American Rubber Co., on Holborne viaduct, London, for the mechanical and miscellaneous products of the United States company, and particularly of its important branch, the Rubber Goods Manufacturing Co.

The Messrs. Symington named above have been members for some years of Alden, Symington & Co., of London and Liverpool, which firm has been succeeded lately by A. H. Alden & Co., Limited, as reported on another page.

VOLTAX, AN INSULATING COMPOUND.

IT is apparent that an important demand has been developed for the insulating compound now marketed as Voltax. Although the name is new, it is understood that the material has been the subject of experimentation for several years, and it probably has been sold at some time under a different name. The preparation is now controlled by the Electric Cable Co. (New York), organized in the early part of this year. Some of the most important railway companies are buyers of the product, including the New York Central and Hudson River, the latter in connection with the electrification of the approaches on their lines to New York city. Street railway lines are also finding use for Voltax, and it is being adopted for house wiring and like purposes; it is also used as a waterproof paint.

The formula for the Voltax compound is not mentioned. Among the advantages claimed are that it retains its elas-

ticity and insulating properties for a long time; is impervious to weather conditions; is not subject to chemical change; is proof against water, acids, and alkalis; is exceedingly flexible; can withstand a higher voltage test than any rubber insulation; has withstood higher potential, insulation, resistance, and melting point tests than any other compound; does not affect copper, and hence the tinning of the copper is unnecessary; and it is cheaper than the ordinary rubber insulation. If these claims can be substantiated, the new compound would appear to have a wide field before it.

The company above named, in addition to Voltax, manufacture wires insulated with the solid compound, or by means of taping.

BREAKFAST FOOD RUBBER.

FOLLOWING the prediction of Professor Dunstan before the British Association that synthetic rubber will yet become a reality, not a little interest is attached to an invention lately patented by a British inventor who hopes to "revolutionize" the rubber industry in another direction. His idea is to make "artificial rubber" from grain. Whereupon the *Montreal Standard*, in view of the importance of grain production in Canada, points out the new source of wealth in the Dominion which would result from the success of the British invention. The *Standard* says: "Visions of automobiles and bicycles with tires made of wheat, golf balls that once were kernels of maize, pavements of barley, and linoleum that might have been rye bread, give a touch of Alice in Wonderland to the invention that is decidedly humorous. But nevertheless the invention is thought so well of that a syndicate of capitalists interested in tire manufacturing in the Old Country have offered the fortunate inventor £250,000 for his patent rights."

The proposed new substitute for rubber is obtained by treating any cereal with phyalin to turn the starchy matter into dextrose, another chemical being used to check fermentation at any desired stage. Thus artificial rubber may be made in various grades suitable for tires, golf balls, linoleum, liquid waterproofing solution, and so on. The *Standard* hears that the inventor will shortly visit Canada for the purpose of arranging for supplies of grain in large quantities for the new demand.

"Although the inventor believes that he may be the means of increasing the price of food in England, he has been thoughtful enough to provide against any danger of famine, for he states that the new rubber can be made into a reserve food supply. In the event of any shortage in edibles the substance can be boiled and reconverted into food. A satirical person might suggest that not only has the inventor found a substitute for rubber, but also a means whereby England's bugbear of famine, in the time of war, may be set at rest."

W. H. ELLIS, of New York, who not long ago went to Abyssinia to promote a commercial treaty between that country and the United States, and was created Duke of Hawash by King Menelik, has been visiting Mexico with a view, it is reported, to exploiting another guayule rubber proposition. Ellis claims concessions in Abyssinia for lands on which there is rubber.

NEWS OF THE AMERICAN RUBBER TRADE.

MERGER OF TWO RUBBER COMPANIES.

THE Ajax Standard Rubber Co. (New York) and the Grieb Rubber Co. (Trenton, N. J.) have been consolidated, the amalgamation taking effect from September 10, 1906. The newly formed concern is known as the Ajax Grieb Rubber Co., and eventually will have its entire manufacturing plant at Trenton while the executive offices and warerooms will be located on upper Broadway, New York, in a building now in course of erection. For some time, however, Ajax tires will continue to be manufactured at the New York plant, in East One Hundred and Sixth street. Important additions are to be made to the Grieb factory in Trenton, and the new company will continue the manufacture of the lines other than tires marketed hitherto so successfully by the Grieb company. The Grieb company succeeded the old Mundell Rubber Co. (Trenton) and were incorporated in June, 1899, since which time their business has experienced a steady growth. The Ajax Standard Rubber Co. was incorporated in November, 1905, to manufacture tires, the capital being supplied by members of the American Motor Car Manufacturers' Association. It is proposed now, with the enlargement of the company's facilities, to solicit business from the general tire buying public as well as supplying the members of the association. Horace DeLisser, who has been president of the Ajax company, is the head of the new organization. William G. Grieb is vice president; Harry Grieb, treasurer; and C. H. Oakley, secretary and factory manager. The last three named have been the principal officers of the Grieb company. Albert S. LeVine, formerly western sales manager of the Maxwell Briscoe Motor Co., has become connected with the new concern in the sales department and will travel extensively for them.

RUBBER HEEL PATENT SUIT DECIDED.

THE suit of Frank W. Whitehead & Co. (Boston) against the Consumers Rubber Co. (Bristol, R. I.), in the United States circuit court in Rhode Island, alleging infringement of the design patent No. 28,012, issued June 21, 1898, to Heber C. Peters, resulted in a decision in favor of the plaintiff and a perpetual injunction against the defendants making and selling rubber shoe heels in imitation of the design covered by that patent. The Consumers company marketed heels lettered "Shamrock", whereas the plaintiff's heels were labeled "Velvet", but it was held that the two designs had the same general appearance and that it was not necessary that the patented thing should be copied in every particular to constitute infringement.

CANADIAN NATIONAL EXHIBITION

AT the recent twenty-eighth annual Canadian National Exhibition at Toronto, auspiciously opened by Sir William Mulock, chief justice of the exchequer division of the high court of justice, there was much to interest the shoe trade. There is room here, however, to mention only the exhibits of the rubber trade. In the center aisle of the Manufacturers' building was to be found the exhibit of the Canadian Rubber Co. of Montreal, Limited, one of the largest and most effectively arranged in the whole structure. Here were to be

seen rubber in the crude state as it was imported and in all the stages of the progress of manufacture, including finished articles of all classes manufactured by the important company. But the chief attraction, of course, to the shoe trade, was the splendid display made of rubber footwear. The Canadian company had also another large exhibit devoted to automobile and carriage tires, covers, etc., in the Transportation building. Another rubber exhibit of special interest to the shoe trade was that of the Berlin Rubber Co., Limited, also situated in the Manufacturers' building. Here was an attractive arrangement of the footwear products of the company named in connection with masses of rubber crude and in the different stages of manufacture. The Dunlop Tire and Rubber Co., Limited, manufacturers of general rubber goods, made an extensive display of their products of mechanical goods and tires, and also an extensive exhibit of revolving rubber heel.

NEW FACTORY OF THE DURHAM RUBBER CO.

THE new factory of the Durham Rubber Co., Limited (Bowmanville, Ontario) [see THE INDIA RUBBER WORLD September 1, 1905, page 120] was recently opened with a public demonstration and banquet, attended by manufacturers from Toronto, Montreal, Hamilton, and other centers. Addresses were made by Mr. James Robinson, president, and Mr. John J. McGill, vice president, and by representatives of the company in various Canadian cities. After the banquet a procession of employes was held, the directors of the company, and the town council following in carriages.

THE buildings in Bowmanville formerly occupied by the Durham Rubber Co. for manufacturing purposes, before removing to their new building, were almost totally destroyed by fire on September 5, with their contents. The buildings were occupied for storing raw materials and by a lot of machinery, besides which the factory compounding room had not been removed to the new plant. It was in the latter room that the fire had its origin. The loss has been estimated at about \$35,000, mostly covered by insurance.

HOT WATER BOTTLE BURST.

IN Pittsburgh James A. Miller and wife, Agnes, have entered suit against the Shipley-Massingham Co., for \$6000 damages, claimed to have been sustained by Mrs. Miller through the bursting of a hot water bottle. The Millers say they bought the hot water bottle from H. Dodson, a druggist of No. 321 Larimer avenue. It was guaranteed to give perfect satisfaction. But when Mrs. Miller filled the vessel and put it on her stomach to relieve pain it burst, and the water scalded her so badly she had to expend \$500 for medical attention, as well as undergo much suffering. She claims the material of which the bottle was made was defective.

THE AUTOMOBILE SHOWS.

AS mentioned already in THE INDIA RUBBER WORLD, the New York automobile show under the auspices of the Automobile Club of America and the American Motor Car Manufacturers' Association, is to be held during the first week in December, at the Grand Central Palace. There are to be, as

usual, two New York shows. That under the auspices of the Association of Licensed Automobile Manufacturers will be held, as last year, at Madison Square Garden. The dates are January 12-19.

AN EFFICIENT SELLING STAFF.

THE illustration at the foot of this page is based upon an excellent photograph of the officials and selling force of the Consolidated Rubber Tire Co. (New York). The names of the gentlemen facing the photographer are as follows, reading from left to right: *Front line*—Frank A. Kissell, Frederick A. Seaman (secretary of the company), Van H. Cartwell (president of the company), Robert F. Houston, Harry E. Doty. *Rear line*—George D. Edwards, Edmund S. Roberts, Stanley F. Hall, Frank E. Holcomb, Howard S. Cox, John Glenn, Paul D. Beach, F. A. Oatman.

TRADE NEWS NOTES

THE B. & R. Rubber Co. (North Brookfield, Massachusetts) opened their office on September 5. On that date the first instalment on the stock subscriptions was collected, and work is being pushed on the factory buildings. Messrs. Charles Beebe and Thomas G. Richards, the heads of the business, have bought residences at North Brookfield.

Mrs. Frances A. W. McIntosh, formerly advertising manager of the Standard Tool Co. (Cleveland, Ohio), and more recently connected with the advertising department of *Power*, New York, has taken charge of the publication department of the Norton Co., makers of Mundum grinding wheels, Worcester, Massachusetts.

The cable from the United States to Alaska earned \$24,000 in July, besides which the official despatches sent would have cost \$12,000 at commercial rates. The increasing demands upon the cable will be met by the government

by duplexing the cable. The cable ship *Burnside*, on going north for this purpose, carried 200 miles of new cable, made at New York, for the extension of the line.

Ohio Rubber Co. (Cleveland) have filed a certificate of increase of capital stock from \$175,000 to \$225,000.

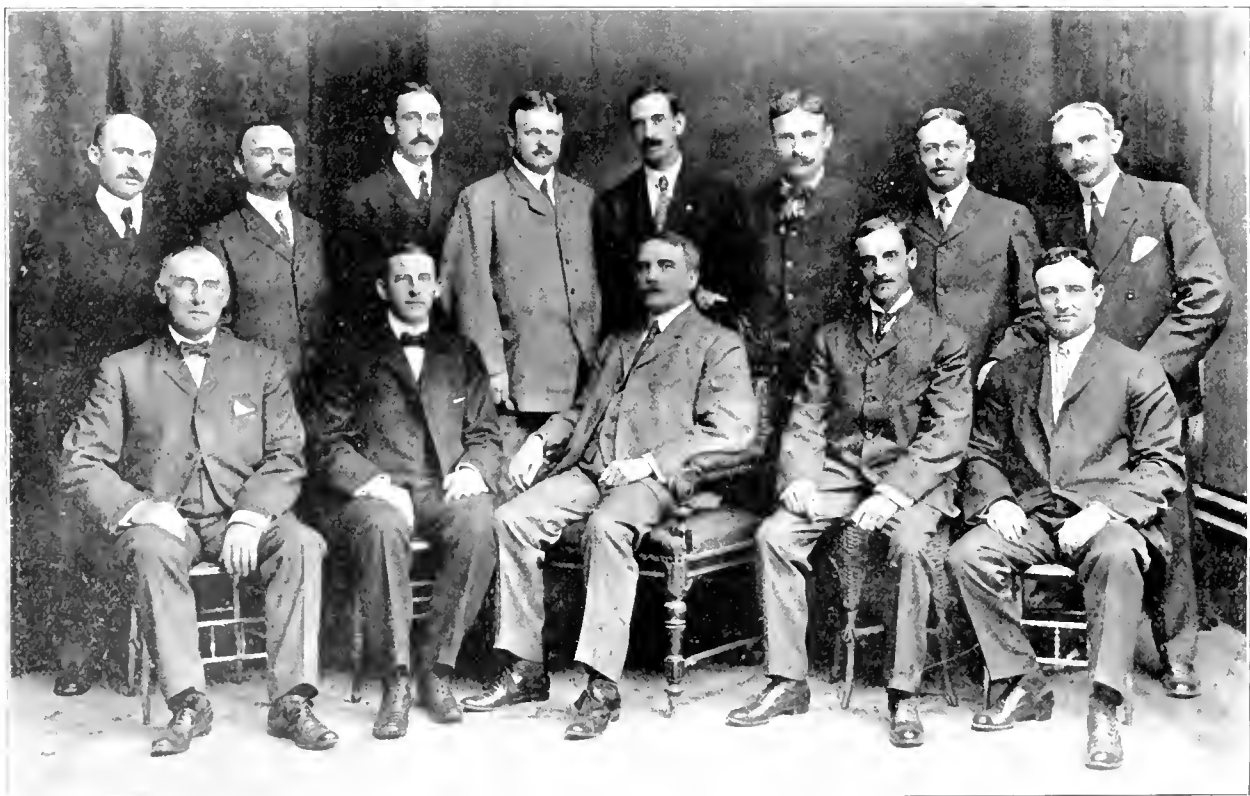
The annual meeting of managers and salesmen of the Fisk Rubber Co. (Chicopee Falls, Massachusetts) this year lasted a week and ended with a day's outing, on land and sea, which embraced a fine clambake in a grove near Springfield. Representatives of the company from all parts of the country made favorable reports in regard to the company's tire business.

Michelin Products Selling Co., Inc. (New York) say in their trade announcements: "Sixty per cent. of all the tires sent to our repair works have suffered more or less from under inflation. Of these, a good proportion are completely ruined."

Schedules in assignment of the Thermalite Co. [see THE INDIA RUBBER WORLD, September 1, 1906—page 405] show liabilities of \$16,050, nominal assets of \$10,700, and actual assets of \$1014.

Oscar L. Ellison, No. 308 West Forty-seventh street, New York, was arrested on the complaint of Frank C. Howe, who alleged that he had invested \$1,300 in the former's business of selling puncture fluids for automobile tires, on account of false representations, and was afterward unable to get his money back. The police stated that several others had given money to Ellison under similar circumstances.

F. & G. Pflomm have leased from the plans the building to be erected at No. 1741 Broadway, New York, for a term of years, to the Pennsylvania Rubber Co. (Jeannette, Pa.), for their tire depot.



OFFICERS AND SELLING FORCE OF THE CONSOLIDATED RUBBER TIRE CO.

= There was a recent conference at Akron of the officers and local sales managers of The B. F. Goodrich Co. and the branch managers and traveling salesmen of the company. The tire branch was discussed in detail and plans adopted for the coming year. On the last day of the meeting the visitors were guests of the company at dinner, and the afternoon was devoted to golf and other sports.

The Michigan Retail Shoe Dealers' Association in session at Detroit on September 6, resolved not to buy any more rubber footwear on the so called calendar or blanket rates. They say that in order to get goods at minimum prices they have been obliged to order goods early, and when the weather is not favorable to the trade, as last winter, and they are left with heavy stocks on hand, they get no consideration from the manufacturers. The Michigan dealers now propose to make their purchases as may be necessary.

Fire at the asbestos factory of the H. W. Johns Manville Co., at the foot of Thirty ninth street, Brooklyn, on the evening of August 30, caused damage estimated at \$100,000.

= A certificate of incorporation of the Commercial Cable Co. of Cuba has been filed in Albany, New York, with a capital of \$100,000 to operate telegraphic communication between New York and Havana by way of Florida and Key West. The principal office is in New York. The directors are: William W. Cooke, Samuel S. Dickinson, George Clapperton, Albert Beck, Clarence H. Mackay, Albert B. Chandler, and Dumont Clarke.

= The Hadley Cement Co. (Lynn, Massachusetts) made an attractive display of their products at the recent National Shoe and Leather Fair, at Chicago.

= The L. Candee & Co. (New Haven, Connecticut), it is reported, are about to expend \$40,000 in remodeling their factory buildings. Floors are to be lowered in some of the buildings and considerable steel construction used.

= The Syracuse Rubber Co. (Syracuse, N. Y.) have been incorporated under the laws of New York with \$25,000 capital. Incorporators: Frank C. Howlett, of Syracuse; E. R. Rice, Buffalo, N. Y.; C. W. Barnes, New York city.

= The Canadian Rubber Co. of Montreal, Limited, are reported to be planning important extensions to their plant, for which purpose they will utilize a tract of land purchased recently adjacent to their present buildings.

= Boston Woven Hose and Rubber Co. have declared a semi annual dividend of 4 per cent. on their common stock, payable September 15, instead of 2 per cent. as heretofore. There is \$750,000 of 6 per cent. preferred stock and \$450,000 of common stock.

= Stowe & Woodward, July 13, 1906, under Massachusetts laws; capital, \$10,000. To manufacture mechanical rubber goods and proof cloth for the trade, at Brockton, Mass. Griswold Stowe is president and Frederick R. Woodward treasurer.

= John Royle & Sons (Paterson, New Jersey), who are so widely known to the rubber trade as makers of tubing and insulating machinery, are also manufacturers on an important scale of machinery in other lines. They have issued a new catalogue of their ruling machines, in connection with wood engraving, and rubber manufacturers desiring to have illustrations made for catalogues and the like may be interested in reading what is said in this catalogue on the advantages of wood cuts as compared with other kinds of pictures.

The Wolverine Rubber Manufacturing Co., the incorporation of which was reported in the last INDIA RUBBER WORLD, are established at No. 237 Jefferson Avenue, Detroit, Michigan, in a general jobbing business in all kinds of rubber goods, besides, they act as manufacturers' agents on lines which they cannot carry in stock. George E. Gable is president, David Craig vice president and treasurer, Oliver H. Joy, secretary and general manager.

Henr Willy Tischbein, one of the directors of the Continental Caoutchouc and Guttapercha Co., of Hanover, and president of the Continental Caoutchouc Co., of New York, has arrived to be present at the Vanderbilt Cup races.

At the annual meeting of the Westinghouse Air Brake Co., at Pittsburgh, on September 6, the regular quarterly dividend of 2 1/2 per cent. was declared, and also two extra dividends, amounting in all to 7 1/4 per cent. for the quarter.

The Pierce Cycle Co., September 13, 1906, under New York laws; capital, \$300,000. Incorporators: G. N. Pierce, Percy P. Pierce, and C. Clifton. To manufacture bicycles, at Buffalo, N. Y. Percy P. Pierce, president of the new company, twice the winner of the Glidden Tour trophy, and son of the president of the George N. Pierce Automobile Co., announces that hereafter he will devote his attention exclusively to bicycles.

= The Hon. L. D. Apsley, president of the Apsley Rubber Co. (Hudson, Mass.) and the Rubber Manufacturing and Distributing Co. (Seattle, Wash.), visited the Pacific coast during the month, and while at Seattle entertained the employees of the Rubber Manufacturing and Distributing Co. at a banquet.

In a report just issued to its stockholders by The Ohio Rubber Culture Co. (Canton, Ohio), it is worthy of note that the company, although less than two years old, has 1,000,000 rubber trees out and growing on its plantation, situated on the Isthmus of Tehuantepec, Mexico. The Minatitlan Contracting Co. of Minatitlan, V. C., Mexico, who are Mexican planters of over 10 years' experience, have charge of this company's development work.

= Justus D. Anderson has been elected president of the G & J Tire Co., and has gone to Indianapolis to take charge of the duties of that office. H. O. Smith, whom he succeeds, after having served as president of the G & J company for several years, will now devote more attention to his automobile interests, though remaining a director in the tire company. Mr. Anderson was at one time sales manager of the G & J company, before going to Hartford, where he has been of late a vice president of the Hartford Rubber Works Co. He has been succeeded in the latter position by V. B. Lang.

= Firestone Tire and Rubber Co. (Akron, Ohio) are marketing a "twin" solid rubber tire which has several advantages. One is that either half may be repaired or replaced without interfering with the other, and there is a positive and independent fastening for both shoulders of each half of the tire.

= At the rubber shoe factory of L. Candee & Co. (New Haven, Connecticut) there has lately been reported a shortage of women employes. It appears that in New Haven, at least, young women are less attracted by work of this kind than formerly, and the management has been obliged to bring in Italian and Polish girls, who are being trained in the various branches of rubber shoe making.

Incorporation papers were filed in Maine on September 12 for a company under the name Port of Para, with \$17,000,000 capital authorized, none of which had been paid in. The papers were filed by The Corporation Trust Co., members of which concern fill the offices for the present. Information regarding the objects of the company was refused.

The Biggs Boiler Works Co. (Akron, Ohio) are doing good work in supplying rubber manufacturers with vulcanizers. Not only are their customers found in their vicinity, but through New England, down in Pennsylvania, and in the far west.

The Miller Rubber Co. (Akron, Ohio), manufacturers of druggists' sundries and rubber specialties, have enjoyed an exceedingly active trade of late, which showed no diminution even during the heated summer months.

Colonel Frank E. Locke, of the Boston Rubber Shoe Co., mentioned a few months ago as having gone to the Pacific coast for the benefit of his health, has returned home greatly improved, and is in charge of the company's Factory No. 2.

=The Vinet detachable rim tire, brought into such prominence at the Grand Prix contest in Paris last summer, is to be manufactured for the American trade by the Hartford Suspension Co., who will also continue making the Truffault-Hartford shock absorber.

THE RUBBER FACTORY AT NORTH BROOKFIELD.

THE illustration on this page gives a view of the building which has been purchased by The B. & R. Rubber Co. (North Brookfield, Massachusetts), a new company the organization of which has been reported already in these pages. The building was formerly known as the E. & A. H. Batcheller shoe factory. It contains about 155,000 square feet of floor space and was up to a few years ago the largest shoe factory in the world. The building is of heavy mill construction and was fortunately built upon a rock, so that it is suitable for the heavy machinery which it is necessary to use in the manufacture of rubber goods. The company are putting in about 200 tons of machinery, all new and of the latest pattern. It is expected that the equipment will be ready for

the manufacture of goods about November 1, when the company will begin making rubber heels, soles, horseshoe pads, mats, and matting, tubing and the like, with the idea of adding other lines within a few months. Mr. Thomas G. Richards is president of the company and Mr. Charles C. Beebe treasurer, their initials being used to form the name of the company.

PERSONAL MENTION.

MR. CHARLES C. EBERHART, for some time connected with the United States consulate general in the city of Mexico, has been appointed consul at Iquitos, Peru. This is the first time that an American consul has been stationed at Iquitos, which is becoming a port of increasing importance, on account of the exportation of rubber from there. Mr. Eberhart sailed for his post on September 15.

=Colonel Samuel P. Colt, president of the United States Rubber Co., returned early in the month from a protracted visit to Europe. His son, Russell Colt, and John J. Watson, Jr., treasurer of the United States company, returned on the same steamer.

NEW INCORPORATIONS.

AMERICAN Pen and Pencil Clip Co., August 31, 1906, under New York laws; capital \$5000. To make metal and rubber goods. Incorporators: J. Fuchs, P. Cohen, and D. E. Goldfarb, all of New York city.

=Ajax-Grieb Rubber Co., September 11, 1906, under New Jersey laws; capital, \$400,000. Incorporators: W. G. Grieb, Henry Grieb, of Philadelphia; C. H. Oakley, of Trenton; H. De Lisser, of New York.

=The Cushion Wheel and Tire Co., September 8, 1906, under New York laws; capital, \$100,000. Incorporators: Edward Mitchell, No. 218 Hudson street, Syracuse, N. Y.; Thomas H. Ward, Syracuse, N. Y.; Edward D. Wood, Indianapolis, Indiana.

=The Atlantic Rubber Manufacturing Co., September 10, 1906, under New Jersey laws; capital authorized, \$125,000. Incorporators: Leander J. Buckley, Glen Ridge, N. J.; Ernest L. Baldwin, No. 153 Monmouth street, Trenton, N. J.; Benjamin Shea, Portchester, N. Y.



FACTORY OF THE B. & R. RUBBER CO. (NORTH BROOKFIELD, MASS.).

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Mr. Francis H. Holton during September celebrated the sixtieth anniversary of his connection with the rubber business. He came to Akron in 1887 to become superintendent of one of the departments of The B. F. Goodrich Co.'s factory, and has since remained here, and is now leading a life of leisure.

The Puncture Proof Tire Co. (Cleveland, Ohio), will erect a large factory in Akron for the manufacture of its tire, the invention of Godfried Knadler, formerly of Akron, and now being manufactured by the Stein Double Cushion Tire Co. Mr. Knadler was connected with the rubber department of the Whitman & Barnes Manufacturing Co. when he invented the puncture proof tire. About a month ago the Puncture Proof Tire Co. was incorporated, with \$100,000 capital, for the manufacture of these tires. The new tire has no inner tube, and is claimed to require no attention after being put on an automobile, until cut to pieces or worn out.

Fearing that it may lose the branch of the Faultless Rubber Co., the city council of Ashland, Ohio, passed an ordinance opening a street to the company's plant in that city, which it has been fighting for the past three years. Recently a report was given out by the company that it was to merge its Akron and Ashland plants into one. The location of this plant has not been decided on, and both Akron and Ashland are bidding for it.

The Buckeye Rubber Co. are experiencing difficulty in securing concessions from the Akron council. The company have made arrangements for the erection of a large number of sheds adjoining their plant, and have asked the council to vacate a portion of the street on which the plant abuts and upon which to erect these sheds. The scheme has met a stumbling block in the way of damage claims which have been filed, amounting to \$12,000.

Mr. H. S. Firestone, president of the Firestone Tire and Rubber Co., left recently for a six weeks' tour of Europe. He was accompanied by his wife.

Mr. Harry H. Replogle, department manager of the Canadian Rubber Co. of Montreal, was married on September 15 to Miss Gertrude Stone, the daughter of Mrs. Laura Stone, of Akron.

Thirty branch managers and traveling salesmen of The B. F. Goodrich Co. held a three days' conference, at the first of the month, with the local sales managers. The tire branch of the trade was the only one represented and discussed in the conference, and plans were laid for the coming year after suggestions were heard from the various managers and salesmen. It was announced after the conference that there will be no general changes in tires this coming season, except wherein improvements can be made in perfecting the present styles.

The Diamond Rubber Co. will send a small army of expert tire men to be in attendance at the Vanderbilt Cup races next month. There will be 52 men present, representing the company, who are expert tire repair men. The corps of Clifford B. Myers, who had charge of the corps of men sent by the company to the former Vanderbilt races and also who attended the Gordon Bennett races in France.

The Rubber Trading Co. (New York) will no longer have

a resident representative in this city. I. C. Alden who has been the resident representative of the company in this city for a number of years has ceased to be connected with the company, and the trade will in the future be visited by R. B. Baird, vice president of the company.

The Williams Foundry and Machine Co. are enjoying a prosperous business in the rubber trade. Large orders have been filled for cores and moulds to be delivered to the Diamond Rubber company.

During the present month the Independent Tire and Rubber Co. was incorporated, with a nominal capital stock of \$1000. The company was incorporated by attorneys of Akron, and after it is fully organized, it is reported, the capital stock be increased to several hundred thousand dollars.

Recently the Panama Crude Rubber Co. was organized in a similar way, the real organizers keeping in the back ground. It has been rumored among the trade that the two incorporations mean the formation of one large rubber company. The former was organized for the purpose, it is said, of securing leases on large rubber plantations, which will ultimately result in the company furnishing to the Independent Tire and Rubber Co. all of the crude rubber needed for its consumption.

Mr. Charles C. Goodrich, assistant general superintendent of The B. F. Goodrich Co., has been elected to the office of councilman at large in the city council. The members of the council agreed unanimously on Mr. Goodrich to fill the vacancy in the council.

Mr. F. G. Carnahan, of the Goodyear Tire and Rubber Co., is at the head of the United States Spirit Co., of Akron, recently incorporated with \$115,000 capital. The company expects to manufacture denatured alcohol.

Mr. James A. Braden has resumed the position of advertising manager of The Diamond Rubber Co., which he resigned a year or two ago to enter another line of business.

On September 24 J. A. Johnston, E. A. Baldwin, and James Strickler filed suit in the Franklin county common pleas court against the Midgeley Manufacturing Co., of Columbus, Ohio, asking for the appointment of a receiver and that another election of officers or directors be held. The petitioners set up that Thomas Midgeley, as president of the company, is acting in the interest of the Rubber Goods Manufacturing Co., and that he has procured the election of men as directors who likewise work for the furtherance of the rubber company. It is charged that they have attempted to depreciate the stock of the company, with a view to buying it in at less than its real worth. John C. Squiers, in another suit, has also asked for the appointment of a receiver. An injunction is asked for, restraining any sale of shares of the Midgeley company to members of the rubber trust.

Mr. Strong Vincent Norton, assistant to C. C. Goodrich, of The B. F. Goodrich Co., was married recently to Miss Florence Lyon, whom he met while a student in the University of Chicago, where she was a teacher of botany.

Later.—The Faultless Rubber Co. will remove its Akron plant to Ashland and consolidate all its manufacturing there. The company's plant at Ashland will include the factory formerly occupied by the Pneumatic Horse Collar Company.

THE TEXTILE GOODS MARKET.

THE general trend of the market is said to be buoyant and it is thought that the fixing of the new price schedule about October 15 will not show any appreciable change from the prevailing list. A prominent authority recently published the following *résumé* of the cotton market:

"Conditions this season are such as to render the usual decline from early offerings less probable. There can be little doubt that the early movement will be heavy, for the reason that perhaps as much as 25 per cent. of the crop has already been sold at 10c. and over for early shipment, and therefore receipts will not be any pressure against the market. The increased warehouse facilities of the South, the more prosperous condition of growers as a class, and the efforts of the various organizations will all be in favor of a very conservative marketing of unhedged cotton, besides which we have not the least doubt in the world but that spinners of all nations are even now prepared, and are waiting for the season of big receipts to embrace what they may well consider the best opportunity likely to be presented during the season for obtaining supplies not only for the necessities of the current season but in many instances to supply their spindles during the coming year. This course of conduct has undoubtedly been suggested to them by the fact that while the commercial crop just marketed was the largest but one in the history of the trade the world's surplus was decreased nearly one-half during the season, and also that after the enormous takings of two years ago the takings of last year indicated a reaction, which, during the present season, is likely to be followed by a renewal of the expansion naturally attending the increase in population and the development of new markets."

The spot situation is strong but there is little or no disposition to deal in futures, at least on the part of the general public.

ADDITIONAL TRADE NOTES.

MR. WEBSTER NORRIS, who is well known as one of the safest and best equipped of the rubber chemists and superintendents, has located permanently in New York. He will devote himself to laboratory work, acting as counsel for rubber manufacturers who have compounding, manufacturing, or testing problems of any description with which to deal.

The Diamond Rubber Co. (Akron, Ohio) announce that all the American entries for the Vanderbilt Cup race, to take place on Long Island on October 6, are to be equipped with the Diamond wrapped tread tires. All the American cars entered in the elimination race on September 22 were also equipped with these tires.

On his recent return from Europe, Colonel Samuel P. Colt was welcomed home at Bristol, Rhode Island, by a number of friends who had speeded him on his departure a few weeks earlier. It was on the evening of September 17 that Colonel Colt was surprised by the arrival of a large party in automobiles, who, after welcoming speeches, presented him with a beautiful silver service, each piece bearing the coat of arms of the Colt family and the inscription "Squantum July 2, 1906," the whole being a souvenir of the farewell dinner above referred to.

The number of dollars that have been saved to the rubber trade by the use of recording thermometers must be quite large, and hundreds of them are in use in rubber mills particularly the Bristol, which is the manufacturers' delight and the heater man's — well the heater man has to keep awake with that infallible watcher always so much in evidence.

— Mrs. A. D. Schlesinger, wife of the superintendent of the India Rubber Comb Co. (College Point, Long Island), died on September 21, after having been an invalid for very many years.

— Mr. George H. Hood, tanned, vigorous, and happy, is spending much of his time running his farm at Hamilton, Massachusetts.

INCREASED RUBBER DIVIDENDS.

The directors of the Rubber Goods Manufacturing Co., on September 21, declared a semi annual dividend of 1 per cent. on the common stock, out of the earnings of the first six months of this year, payable October 15 to shareholders of record September 30. Dividends had not been paid previously on these shares since the end of 1901. The directors of the General Rubber Co. have declared a quarterly dividend of 4 per cent., payable September 30 to shareholders of record September 21. In June last the company declared a dividend of 1 per cent. for the preceding fiscal year. As the shares of these two companies are held so largely by the United States Rubber Co., and the dividends on these will amount to a handsome sum, some holders of the common stock of the United States company are asking whether this money will be applied to a resumption of dividends on common.

NEW AUTOMOBILE TIRE PRICES.

SEVERAL of the rubber tire manufacturers have issued new lists since September 1. These lists are substantially the same as before, though some changes have been introduced to make them more symmetrical. Hitherto, some tires have been higher priced in relation to the material and workmanship involved than others, and in the new lists prices have been more nearly equalized. New discounts have been arranged, however, by certain firms, including The B. F. Goodrich Co. and the Diamond Rubber Co., which will have the effect on the average of slightly reducing the prices. While prices are subject to change without notice, they will expire by limitation in any case July 15, 1907. The Hartford Rubber Works Co. announce that their prices will be absolutely maintained. The Goodyear Tire and Rubber Co., in advance of the issue of a new list, state that their prices will be substantially the same as last year.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co. :

DATES	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Aug. 25	8,205	48 ³ / ₄	45 ³ / ₄	1,450	109 ⁵ / ₈	107
Week ending Sept. 1	700	47 ¹ / ₄	45 ¹ / ₈	1,543	109	108
Week ending Sept. 8	4,500	48	45 ¹ / ₈	3,500	108 ⁵ / ₈	106 ¹ / ₂
Week ending Sept. 15	28,800	56 ¹ / ₄	47 ¹ / ₂	6,020	111 ³ / ₄	107 ⁷ / ₈
Week ending Sept. 22	18,270	56 ¹ / ₂	53 ³ / ₄	4,500	111 ¹ / ₄	109 ¹ / ₂

SECOND PREFERRED.

Week ending—Aug. 25.	Sept. 1.	Sept. 8.	Sept. 15.	Sept. 22.
Sales..... 100	—	—	700	400
High..... 79	—	—	81	80 ⁷ / ₈
Low..... 79	—	—	80	80

REVIEW OF THE CRUDE RUBBER MARKET.

THE market has presented few changes during the month. Buying has not been particularly active at any time, and quotations are slightly lower than a month ago, though the month closes with a condition of firmness, with indications that more interest on the part of consumers will be manifested in the near future. Arrivals at Pará since the beginning of the crop year have been larger than usual, but the receipts for the first three months of any season are no sure indication of what the whole year will bring out, and prices have not been materially affected. The figures are:

	1903.	1904.	1905.	1906.
July	1280	1250	1450	1540
August	1230	1260	1300	1090
September	2010	1780	2200	1955
Total	4520	4290	4950	4585
[a To September 18, 1906.]				

The impression has prevailed in some quarters that less rubber will be called for in the rubber shoe industry this year, owing to the stocks of manufactured goods held over on account of the "open" winter last season. But it is pointed out by a member of the crude rubber trade that any falling off from this cause will be more than compensated for by the constantly increasing consumption of rubber in tires, not for automobiles alone, but for vehicles of many kinds, and particularly commercial vehicles.

The stability of the market above referred to is regarded by many as due, at least in part, to the fact that certain large consuming interests are now more regular buyers than formerly, on the theory that active buying at intervals on a large scale is always liable to influence prices, and even to cause marked fluctuations. The size of stocks in the New York market is not always a matter of certainty, and some estimates are considerably in excess of the "official" figures supplied to the trade.

In addition to the arrivals at New York from Pará, reported on another page, the *Hildebrand* landed on September 25, with 683,900 pounds of rubber, including 16,700 Caucho.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on September 27—this date:

PARÁ	October 1, '05.	September 1, '06.	September 27.
Islands, fine, new.....	127@128	119@120	119@120
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	129@130	124@125	123@124

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots in cents per pound—are somewhat higher throughout the list:

Old Rubber Boots and Shoes - Domestic.....	9 1/4 @	9 1/8
Do - Foreign.....	8 1/2 @	8 5/8
Pneumatic Bicycle Tires.....	7 1/2 @	7 3/4
Automobile Tires.....	10 @	10 3/8
Solid Rubber Wagon and Carriage Tires.....	8 3/4 @	8 7/8
White Trimmed Rubber.....	11 1/2 @	11 3/4
Heavy Black Rubber.....	5 1/2 @	5 5/8
Air Brake Hose.....	4 3/4 @	5
Fire and Large Hose.....	3 5/8 @	3 3/4
Garden Hose.....	2 1/2 @	2 3/4
Matting.....	1 1/2 @	1 5/8

Upriver, fine, old.....	132@133	126@127	126@127
Islands, coarse, new.....	71@72	66 1/2 @	67@68
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	92@93	91 1/2 @	92
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	73@74	75@76	75@76
Caucho (Peruvian) ball.....	82@86	90@91	91@92
Ceylon (Plantation) fine sheet.....		142@143	142@143

AFRICAN.

Sierra Leone 1st qual. 102	6@103
Massai, red.....102	6@103
Benguella.....78	6@79
Cameroon ball.....76	6@77
Accra flake.....21 1/2 @	22
Lopori ball, prime.....114	6@115
Lopori strip, prime.....103	6@104
Madagascar, pinky.....	6@93
Ikelemba.....115	6@116
Soudan niggers.....95	6@96

CENTRALS.

Esmeralda, sausage.....	8@90
Guayaquil, strip.....	73@74
Nicaragua, scrap.....	85@86
Panama, slab.....	63@64
Mexican, scrap.....	88@89
Mexican, slab.....	62@63
Lopori strip, sheet.....	75@76
Guayaquil.....	4@45

EAST INDIAN.

Assam.....	92@93
Borneo.....	41@48

Late Pará cables quote:

	Per Kilo.	Per Kilo.
Islands, fine.....	5\$150	Upriver, fine.....68\$00
Islands, coarse.....	28\$80	Upriver, coarse.....45\$700
Exchange, 15 1/2 d.		

Last Manáos advices:

Upriver, fine.....	6\$800	Upriver, coarse.....45\$150
Exchange, 15 1/2 d.		

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium	Coarse.	Total.	Total.	Total.
			1906	1905.	1904.
Stocks, July 31.....tons	140	7 =	147	417	137
Arrivals, August.....	454	269 =	723	445	478
Aggregating.....	594	276 =	870	862	615
Deliveries, August.....	507	270 =	777	546	549
Stocks, August 31.....	87	6 =	93	316	66

PARÁ.

	1906.	1905.	1904.	1906.	1905.	1904.
Stocks, July 31.....tons	376	240	175	790	390	585
Arrivals, August.....	1565	1230	1010	460	690	595
Aggregating.....	1941	1470	1185	1250	1080	1180
Deliveries, August.....	1491	1195	870	550	700	745
Stocks, August 31.....	450	275	315	700	380	345

ENGLAND.

	1906.	1905.	1904.	1906.	1905.	1904.
World's visible supply, August 31.....tons	1876	1534	1281			
Pará receipts, July 1 to August 31.....	2865	2180	1010			
Pará Receipts of Caucho, same dates.....	485	220	230			
Alloft from Pará to United States, Aug. 31.....	218	87	166			
Alloft from Pará to Europe, August 31.....	415	176	241			

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the sale of August 24, the transactions comprised the following quantities:

	Exposed.	Sold.
Congo sorts.....	tons 348	330
Sundries.....	83	38
Total.....	431	368

Buyers showed some hesitation and prices were very irregular, the average decline on valuations being about 1 per cent. The next large sale by inscription will be held on September 26, when about 481 tons will be offered, chiefly arrivals per steamers *Philippeville* and *Leopoldville*. Sales since August 1, about 400 tons; stock about 700 tons.

C. SCHMID & CO., SUCCESSIONS.

Antwerp, Belgium, August 27, 1906.

RUBBER ARRIVALS AT ANTWERP.

SEPT. 10.—By the <i>Bruxellesville</i> , from the Congo:			
Bunge & Co. (Société Générale Africaine)	kilos	107,000	
Do		67,500	
Do	(Cie. du Kasai)	60,100	
Do	(Comité Spécial Katanga)	5,500	
Do	(Chemins de fer Grand Laes)	11,100	
Société Coloniale Anversoise (Belge du Haut Congo)		28,000	
Do	(Cie. de Lomami)	9,150	
Do	(Sud Kamerun)	1,500	
Do		1,500	
M. S. Cols	(Mr. D'Heygere)	400	
Do	(Baniembé)	2,100	
Société Equatoriale Congolaise	(l'Ikelemba)	1,000	294,850
AUGUST 21.—By the <i>Leopoldville</i> , from the Congo:			
Bunge & Co. (Société Générale Africaine)	kilos	78,000	
Do		19,600	
Do	(Comité Spécial Katanga)	2,000	
Do	(Chemins de fer Grand Laes)	3,100	
Do	(Société A B I R)	11,000	
Société Coloniale Anversoise (Belge du Haut Congo)		1,400	
Do	(Sud Kamerun)	5,500	
Do		3,800	
L. & W. Van de Velde	(Cie. du Kasai)	106,000	
Do		7,000	
G. & C. Krelinger	(Société "La Lobay")	8,800	
M. S. Cols	(l'Ikelemba)	400	
Do	(C. D'Heygere)	350	
Charles Dethier	(Belgika)	900	
Société Equatoriale Congolaise	(l'Ikelemba)	580	251,430

New Caledonia Rubber Exports.

EXPORTS OF rubber from the French colony of New Caledonia (mostly to the Bordeaux market) are reported in *La Quinzaine Coloniale* as follows. Prices have been on a par with Conakry niggers:

1899	1,521 kilos	1903	11,268 kilos.
1900	24,110 "	1904	17,099 "
1901	19,511 "	1905	22,647 "
1902	8,514 "		

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

POUNDS.	POUNDS.
January 1 to June 18...129,785	Week ending Aug. 6...10,133
Week ending June 25...19	Week ending Aug. 13...1,548
Week ending July 2...9,893	
Week ending July 9...4,916	Total, 1906...177,691
Week ending July 16...10,121	Same dates, 1905...65,125
Week ending July 23...2,190	Same dates, 1904...41,295
Week ending July 30...8,147	Same dates, 1903...26,413
DESTINATION.	
Great Britain...132,388	Australia...1,272
United States...31,007	France...761
Germany...8,950	Belgium...247

London.

THE partnership hitherto carried on under the name of Alden Symington & Co., by A. H. Alden, William Symington, A. H. B. G. Symington, and E. Olsen, was dissolved on August 31. The business, however, is being continued under the name of A. H. Alden & Co., Limited, in the same offices in London, Liverpool, and Hamburg, in every respect, with the exception of the retirement of the Messrs. Symington. The directors of the new company are Adelbert H. Alden (chairman), Edward Olsen (deputy chairman), G. Edwin Alden, Albert Long, William H. Hildreth, Arthur W. Stedman, and Frederick W. Dunbar. Associated in the management in Europe will be Mr. Olsen, who has been with the firm for many years, and Mr. Hildreth, associated with them for some time past in Brazil. Also Mr. Long, who has been with the firm for nearly 18 years.

The business of Alden, Symington & Co. has not been acquired by any other corporation, as some newspaper reports would imply, though the Messrs. Symington have organized a new corporation, William Symington & Co., Limited.

LONDON RUBBER MARKET.

SEPTEMBER 11. The market has been firmer during the past

week, Lewis & Peat report, and more business has been done. Sales included fine hard fine Pará, spot near delivery, at 5s. 2d. and distant delivery at 5s. 1½d.

Plantation.—Gow, Wilson & Stanton, Limited, report offers at to-day's auction of 328 packages of Ceylon and Straits, of which about 165 were sold. The highest prices paid was 5s. 7½d [= \$1.36½] for fine Ceylon biscuits and fine pale crepe. Fine sold at this time last year as high as 6s. 4½d. [= \$1.55] per pound. The decline since last year has been more than on fine Pará, the highest price for which to-day is 5d. [= about to cents] below this date in 1905.

Liverpool.

EDMUND SCHLÜTER & Co. report [August 31]:

These figures show a heavy increase of receipts both of Rubber and Cancho, the result of an early crop, and it is possible that the receipts during September may also exceed those of September, 1905. Experience has, however, shown that large receipts during the first half of the season are almost without exception followed by proportionally moderate ones during the second half and consumers will do well not to lose sight of this fact.

WORLD'S VISIBLE SUPPLY OF PARÁ, AUGUST 31

	1906.	1905.	1904.	1903.	1902.
Tons.	2810	1866	1402	1976	2902
Prices, hard fine 5/2		5/7	5/-	4 3	3 2¼

LIVERPOOL STOCKS OF AFRICAN RUBBER, AUGUST 31.

1906	372	1903	305	1900	710
1905	323	1902	449	1899	459
1904	459	1901	626	1898	373

WILLIAM WRIGHT & Co. report [September 1]:

Fine Pará. During the first half of the month the market was firm and fairly active. Owing to some American orders spot prices advanced to 5s. 3d.; towards the close the demand has been very dull; closing value 5s. 2d. for Upriver. Islands has been rather more inquired for, and up to 5s. 2½d. was paid, closing at 5s. 2d. America still continues quiet, and the tone there is rather easier. At the moment there are no indications of an advance in prices.

IMPORTS FROM PARÁ AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

August 23.—By the steamer *Fluminense*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
N. Y. Commercial Co.	82,700	29,400	49,800	2,400	164,300
General Rubber Co.	42,400	7,800	65,100	300	115,600
Poel & Arnold.	17,400	6,100	44,900	300	68,700
C. P. dos Santos	14,100	700	3,400		18,200
Edmund Reeks & Co.	6,700	1,100	7,000		14,800
A. T. Morse & Co.	3,100	300	9,500		12,900
Neale & Co.	2,400	1,300	4,800		8,500
Total	168,800	46,700	184,500	3,000	403,000

September 4.—By the steamer *Amazonense*, from Manáos and Pará:

General Rubber Co.	89,100	10,300	64,900	1,200	165,500
Poel & Arnold.	57,200	16,400	21,500	10,500	105,600
N. Y. Commercial Co.	42,700	4,700	12,500		59,900
Edmund Reeks & Co.	27,400	7,100	13,100		47,600
A. T. Morse & Co.	1,500		27,800		29,300
Neale & Co.	8,100	1,100	20,200		29,400
Hagemeyer & Brunn.	11,400		2,100		13,500
C. P. dos Santos.	8,400		2,400		11,800

Total...245,800 39,600 164,500 11,700 = 461,600

September 14.—By the steamer *Cearense*, from Manáos and Pará:

Poel & Arnold.	151,000	29,900	67,400	15,500	264,700
General Rubber Co.	60,800	7,700	125,500	300	194,300
N. Y. Commercial Co.	108,600	13,100	41,800	23,800	187,300
A. T. Morse & Co.	122,700	13,600	53,400	400	190,100
C. P. dos Santos.	27,200	4,200	2,700	600	34,700
Hagemeyer & Brunn.	19,300	2,000	10,600		31,900
Edmund Reeks & Co.	11,500	5,100	8,600		25,200
Neale & Co.	8,800	1,400	8,900		19,100
G. Amsinck & Co.			200	11,200	11,400

Total...510,800 77,000 319,100 51,700 = 958,700

[NOTE.—The steamer *Basil* from Pará is due at New York, October 5, with 270 tons rubber.]

PARA RUBBER VIA EUROPE.

AUG. 20.—By the <i>Green</i> =Liverpool:	
Poel & Arnold (Cañcho).....	15,000
AUG. 30.—By the <i>Martha</i> =Liverpool:	
Robinson & Stiles (Fine).....	22,500
SEPT. 4.—By the <i>Coffin</i> =Liverpool:	
Robinson & Stiles (Fine).....	18,000
SEPT. 4.—By the <i>Unbride</i> =Liverpool:	
New York Commercial Co (Fine).....	15,000
SEPT. 5.—By the <i>Caroma</i> =Liverpool:	
New York Commercial Co. (Coarse).....	25,000
Robinson & Stiles (Fine).....	11,000
SEPT. 12.—By the <i>Rosa</i> =Liverpool:	
Poel & Arnold (Cañcho).....	7,000
Poel & Arnold (Cañcho).....	18,000
New York Commercial Co (Coarse).....	1,500
SEPT. 12.—By the <i>Enbana</i> =Liverpool:	
A. T. Morse & Co. (Cañcho).....	20,000
SEPT. 13.—By the <i>Wal Kaiser</i> =Hamburg:	
New York Commercial Co. (Fine).....	2,000
Poel & Arnold (Cañcho).....	6,000
SEPT. 17.—By the <i>Etrana</i> =Liverpool:	
New York Commercial Co. (Fine).....	15,000
SEPT. 22.—By the <i>Lucania</i> =Liverpool:	
Robinson & Stiles (Fine).....	30,000

OTHER ARRIVALS AT NEW YORK

CENTRAIS.

AUG. 22.—By the <i>Finance</i> =Colon:	
G. Amsinck & Co.....	4,400
E. B. Strout.....	2,000
Piza, Nephews & Co.....	1,700
W. Loanza & Co.....	700
AUG. 22.—By the <i>Sibiria</i> =Costa Rica:	
Suzarte & Whitney.....	1,000
Roldan & Van Sickle.....	800
Isaac Brandon & Bros.....	700
Foulke & Co.....	900
Anthony Held.....	600
A. A. Lindo & Co.....	500
Graham Hinkley Co.....	500
AUG. 24.—By the <i>Rio Grande</i> =Mobile:	
Manhattan Rubber Mfg. Co.....	2,500
A. N. Rotholz.....	1,700
A. T. Morse & Co.....	2,000
Theband Brothers.....	1,300
AUG. 24.—By the <i>El Norte</i> =Galveston:	
Continental Mexican Co.....	30,000
AUG. 24.—By the <i>Batavia</i> =Hamburg:	
A. T. Morse & Co.....	22,500
AUG. 25.—By the <i>Seguancia</i> =Mexico:	
Harburger & Stack.....	4,500
E. Steiger & Co.....	1,500
H. Marquardt & Co.....	1,200
E. N. Tibbals Co.....	500
AUG. 25.—By the <i>Matanzas</i> =Tampico:	
Edward Maurer.....	30,000
Harburger & Stack.....	2,000
H. Marquardt & Co.....	500
AUG. 27.—By the <i>Colon</i> =Colon:	
Feltman Estate.....	11,000
Lawrence Johnson & Co.....	6,100
Lawrence Tibburt & Co.....	4,000
Mann & Emdon.....	4,300
Bartling & De Leon.....	1,000
Meyer Hecht.....	600
AUG. 27.—By the <i>Pyris Ethel Frederick</i> =Colon:	
Feltman Estate.....	5,500
A. Santos & Co.....	1,200
George A. Alden & Co.....	1,000
Friedk. Probst & Co.....	1,300
E. B. Strout.....	1,200
Aios. Georges & Co.....	2,000
Fould & Co.....	800
H. A. S. Henry Co.....	700
Pedro A. Lopez.....	700
Roldan & Van Sickle.....	600
G. Amsinck & Co.....	500
Mecke & Co.....	500
SEPT. 1.—By the <i>Monterey</i> =Mexico:	
Harburger & Stack.....	4,500
E. Steiger & Co.....	1,000

CENTRAIS—Continued.

H. Marquardt & Co.....	3,000
Graham Hinkley & Co.....	1,000
SEPT. 4.—By the <i>Libana</i> =Colon:	
Feltman Estate.....	1,000
New York Commercial Co.....	1,000
Dumarest Bros. & Co.....	1,000
G. Amsinck & Co.....	1,000
Aramburo Inpta.....	1,000
E. Rosenheim & Co.....	1,000
American Trading Co.....	1,000
SEPT. 11.—By the <i>E. Monte</i> =New Orleans:	
A. N. Rotholz.....	1,000
SEPT. 11.—By the <i>Concha</i> =Tampico:	
New York Commercial Co.....	25,000
SEPT. 15.—By the <i>M. J. A.</i> =London:	
George A. Alden & Co.....	10,000
SEPT. 17.—By the <i>El Cid</i> =Galveston:	
Continental & Mexican Co.....	52,000
SEPT. 17.—By the <i>P. Etrana</i> =Hamburg:	
Poel & Arnold.....	21,000
SEPT. 17.—By the <i>Pandana</i> =Colon:	
Mann & Emdon.....	3,100
Lawrence Johnson & Co.....	2,200
G. Amsinck & Co.....	2,500
E. B. Strout & Co.....	1,000
A. Rosenheim & Co.....	1,300
Feltman Estate.....	1,000
Meyer Hecht.....	600
Aramburo Inpta.....	500
SEPT. 17.—By the <i>Sarria</i> =Colombia:	
D. A. Delima & Co.....	2,500
Kunhardt & Co.....	1,500
Isaac Brandon & Bros.....	700
SEPT. 16.—By the <i>Indorillo</i> =Bahia:	
American Commercial Co.....	49,500
New York Commercial Co.....	30,000
Adolph Hirsch & Co.....	5,500
SEPT. 17.—By the <i>El Dorado</i> =New Orleans:	
Manhattan Rubber Mfg. Co.....	2,000
Eggers & Henion.....	2,000
SEPT. 19.—By the <i>Minneapolis</i> =London:	
Robinson & Stiles.....	4,500
SEPT. 12.—By the <i>El Mar</i> =Galveston:	
Continental & Mexican Co.....	28,000
SEPT. 11.—By the <i>Albania</i> =Colon:	
Feltman Estate.....	23,700
Lawrence Johnson & Co.....	10,000
New York Commercial Co.....	8,100
P. Calveto Co.....	1,000
E. B. Strout.....	1,000
Charles E. Griffin.....	1,500
SEPT. 12.—By the <i>Lonetta</i> =Colon:	
G. Amsinck & Co.....	3,500
A. Held.....	1,300
Isaac Brandon & Bros.....	1,000
H. Marquardt & Co.....	700
SEPT. 13.—By the <i>La Plata</i> =Caribbean:	
American Trading Co.....	1,500
Silva Busseus & Co.....	1,500
D. A. Delima & Co.....	1,500
Smithers Nordenholt & Co.....	1,000
Aramburo Inpta.....	600
Wessels & Kulenkamp.....	600
Kunhardt & Co.....	500
G. Amsinck & Co.....	500
SEPT. 14.—By the <i>El Paso</i> =New Orleans:	
A. T. Morse & Co.....	3,000
SEPT. 15.—By the <i>El Rio</i> =Galveston:	
Continental & Mexican Co.....	43,000
SEPT. 14.—By the <i>Esperanza</i> =Frontiera:	
Harburger & Stack.....	3,500
Theband Brothers.....	2,500
H. Marquardt & Co.....	2,000
Graham Hinkley & Co.....	1,500
E. Steiger & Co.....	1,000
American Trading Co.....	500
SEPT. 17.—By the <i>Etrana</i> =Liverpool:	
Rubber Trading Co.....	4,500
F. N. Beattie.....	2,500
SEPT. 17.—By the <i>Finance</i> =Colon:	
New York Commercial Co.....	4,700
Roldan & Van Sickle.....	3,900
Feltman Estate.....	3,200
Dumarest Bros. & Co.....	2,900

CENTRAIS—Continued.

P. A. = Lewis & Co.....	3,000
A. M. Capen Sons.....	1,000
G. Amsinck & Co.....	1,000
E. B. Strout.....	1,000
Andean Trading Co.....	1,000
SEPT. 17.—By the <i>Locatana</i> =Liverpool:	
New York Commercial Co.....	2,000
Edward Maurer.....	2,000
SEPT. 18.—By the <i>Uganda</i> =Colon:	
G. Amsinck & Co.....	3,000
George A. Alden & Co.....	3,000
SEPT. 18.—By the <i>Tennison</i> =Bahia:	
E. H. Rosshack & Bros.....	1,000
American Commercial Co.....	1,000
A. Hirsch & Co.....	1,000
SEPT. 19.—By the <i>Sarria</i> =Colombia:	
D. A. Delima & Co.....	2,000
Isaac Brandon & Bros.....	1,000
Silva Busseus & Co.....	1,000
H. A. S. Henry Co.....	1,000
American Trading Co.....	1,000
Wessels & Kulenkamp.....	1,000
A. A. Lindo & Co.....	1,000
Roldan & Van Sickle.....	1,000
C. A. Delgado.....	1,000
Aramburo Inpta.....	1,000
SEPT. 19.—By the <i>Spartan Perno</i> =Bahia:	
American Commercial Co.....	1,000
New York Commercial Co.....	1,000
J. H. Rosshack & Bros.....	1,000
SEPT. 20.—By the <i>Uganda</i> =Tampico:	
New York Commercial Co.....	2,500
European Account.....	2,000
Harburger & Stack.....	2,000
Isaac Kubie & Co.....	1,000
SEPT. 20.—By the <i>El Cid</i> =Galveston:	
Continental & Mexican Co.....	18,000
SEPT. 20.—By the <i>Colon</i> =Colon:	
G. Amsinck & Co.....	1,000
Jose Julia & Co.....	1,000
E. B. Strout.....	2,000
Dumarest Bros. & Co.....	2,500
W. R. Grace & Co.....	2,000
Roldan & Van Sickle.....	1,200
Andean Trading Co.....	1,200
Wessels & Kulenkamp & Co.....	1,200
Meyer Hecht.....	1,000
New York Commercial Co.....	800
Piza, Nephews & Co.....	600
SEPT. 22.—By the <i>El Monte</i> =New Orleans:	
A. T. Morse & Co.....	3,000
G. Amsinck & Co.....	2,500
A. N. Rotholz.....	1,000
SEPT. 22.—By the <i>Saguancia</i> =Mexico:	
E. Steiger & Co.....	4,500
Harburger & Stack.....	2,000
Theband Brothers.....	2,000
Frederick Probst & Co.....	1,500
Graham Hinkley & Co.....	1,000
W. L. Wadleigh.....	500
SEPT. 22.—By the <i>El Siglo</i> =Galveston:	
Continental & Mexican Co.....	26,000
AFRICANS.	
AUG. 20.—By the <i>Green</i> =Liverpool:	
Poel & Arnold.....	22,500
A. T. Morse & Co.....	2,500
AUG. 22.—By the <i>Carmania</i> =Liverpool:	
George A. Alden & Co.....	3,000
AUG. 24.—By the <i>Batavia</i> =Hamburg:	
Poel & Arnold.....	35,000
A. T. Morse & Co.....	1,500
AUG. 25.—By the <i>Lucania</i> =Liverpool:	
George A. Alden & Co.....	1,000
Henry A. Gould Co.....	3,000
Robinson & Stiles.....	2,000
AUG. 27.—By the <i>London</i> =Antwerp:	
Western Electric Co.....	1,000
AUG. 27.—By the <i>Ce ne</i> =Liverpool:	
Poel & Arnold.....	1,000
A. W. Brunn & Co.....	500
AUG. 28.—By the <i>Potsdam</i> =Rottterdam:	
Poel & Arnold.....	14,000
Rubber Trading Co.....	7,000
James E. Odell.....	1,000

AFRICANS—Continued.

Aug. 25.—By the <i>Marse</i> =Liverpool:		
George A. Alden & Co.	1,000	
Rubber Trading Co.	1,000	
Raw Products Co.	1,000	
James P. O'Brien	1,000	
Robinson & Stiles	2,000	12,000
Aug. 1.—By the <i>Patagonia</i> =Hamburg:		
A. T. Morse & Co.	1,000	
George A. Alden & Co.	15,000	60,000
Sept. 1.—By the <i>Hudson</i> =Havre:		
A. T. Morse & Co.	11,000	
Sept. 1.—By the <i>Blencher</i> =Hamburg:		
George A. Alden & Co.	1,500	
A. T. Morse & Co.	1,500	1,000
Sept. 1.—By the <i>Island</i> =Antwerp:		
Rubber Trading Co.	6,300	
Sept. 1.—By the <i>Coler</i> =Liverpool:		
Rubber Trading Co.	7,000	
Sept. 5.—By the <i>Caronia</i> =Liverpool:		
George A. Alden & Co.	1,000	
General Rubber Co.	45,000	
Livsey & Co.	7,000	
Henry A. Gould Co.	5,000	102,000
Sept. 7.—By the <i>Proctor</i> =Hamburg:		
George A. Alden & Co.	30,000	
Poel & Arnold	7,000	
General Rubber Co.	15,500	
Rubber Trading Co.	20,000	
A. T. Morse & Co.	3,500	74,000
Sept. 10.—By the <i>M. Pa.</i> =London:		
Poel & Arnold	11,000	
George A. Alden & Co.	5,000	16,000
Sept. 11.—By the <i>Kroonland</i> =Antwerp:		
A. T. Morse & Co.	9,000	
Rubber Trading Co.	3,000	12,000
Sept. 12.—By the <i>Born</i> =Liverpool:		
Poel & Arnold	22,500	
George A. Alden & Co.	17,000	
Raw Products Co.	8,000	
Rubber Trading Co.	7,000	
A. T. Morse & Co.	2,000	50,500
Sept. 13.—By the <i>America</i> =Antwerp:		
George A. Alden & Co.	80,000	
A. T. Morse & Co.	16,000	
Poel & Arnold	50,000	
Robinson & Stiles	7,000	162,000
Sept. 15.—By the <i>Wallersee</i> =Hamburg:		
A. T. Morse & Co.	45,000	
Poel & Arnold	30,000	
George A. Alden & Co.	3,000	78,000
Sept. 17.—By the <i>Ebana</i> =Liverpool:		
Rubber Trading Co.	7,000	
George A. Alden & Co.	6,500	13,500
Sept. 17.—By the <i>Toname</i> =Havre:		
A. T. Morse & Co.	9,000	
George A. Alden & Co.	4,500	13,500
Sept. 17.—By the <i>Adrie</i> =Liverpool:		
General Rubber Co.	45,000	

AFRICANS—Continued.

A. W. Brunn & Co.	15,000	
Livsey & Co.	11,500	
Earle Brothers	3,500	70,000
Sept. 18.—By the <i>Fishland</i> =Antwerp:		
Raw Products Co.	2,500	
New York Commercial Co.	2,500	5,000
Sept. 19.—By the <i>Hamburg</i> =Hamburg:		
Poel & Arnold	25,000	
George A. Alden & Co.	13,500	
General Rubber Co.	8,000	46,500
Sept. 20.—By the <i>Balta</i> =Liverpool:		
Robinson & Stiles	1,500	
Rubber Trading Co.	4,500	
Earle Brothers	3,500	
Livsey & Co.	1,000	13,500
Sept. 20.—By the <i>Carmant</i> =Liverpool:		
George A. Alden & Co.	4,500	

EAST INDIAN.

Aug. 27.—By the <i>Minnetonka</i> =London:		POUNDS.
George A. Alden & Co.	25,000	
Sept. 1.—By the <i>Celtic</i> =Liverpool:		
A. T. Morse & Co.	9,000	
Sept. 10.—By the <i>Minneapolis</i> =London:		
Robinson & Stiles	7,000	
George A. Alden & Co.	1,500	8,500
Sept. 12.—By the <i>Wartentels</i> =Colombo:		
A. T. Morse & Co.	6,000	
Sept. 14.—By the <i>Anglo Saxon</i> =Singapore:		
Joseph Cantor	15,000	
A. T. Morse & Co.	9,000	
A. W. Brunn & Co.	10,000	34,000
Sept. 12.—By the <i>Indrasamha</i> =Singapore:		
Heabler & Co.	22,500	
Poel & Arnold	11,000	
A. T. Morse & Co.	22,500	
A. W. Brunn & Co.	30,000	
Joseph Cantor	15,000	
F. K. Muller & Co.	17,000	
George A. Alden & Co.	5,000	125,000
Sept. 17.—By the <i>Monchaha</i> =London:		
Robinson & Stiles	8,000	
A. T. Morse & Co.	3,500	
George A. Alden & Co.	3,500	15,000
GUTTA-JELUTONG.		
Sept. 11.—By the <i>Anglo Saxon</i> =Singapore:		
Willam Tappenbach	425,000	
Poel & Arnold	150,000	
Edward Bonstead & Co.	175,000	
H. Romli & Co.	75,000	
D. A. Shaw & Co.	55,000	
Interior Poles	125,000	1,005,000
Sept. 12.—By the <i>Indrasamha</i> =Singapore:		
Heabler & Co.	350,000	
Poel & Arnold	140,000	
A. W. Brunn & Co.	110,000	
William Tappenbach	110,000	
Robinson & Stiles	125,000	
George A. Alden & Co.	150,000	
F. K. Muller & Co.	15,000	1,000,000

GUTTA-PERCHA AND BALATA.

Aug. 25.—By the <i>Savane</i> =Havre:		POUNDS.
George A. Alden & Co.	4,500	
Sept. 12.—By the <i>Indrasamha</i> =Singapore:		
Robert Soltan Co.	7,000	
Sept. 19.—By the <i>Hamburg</i> =Hamburg:		
Robert Soltan Co.	22,500	
BALATA.		
Aug. 21.—By the <i>Aurora</i> =Demerata:		
George A. Alden & Co.	6,000	
Sept. 10.—By the <i>Minneapolis</i> =London:		
Henry A. Gould Co.	4,500	
Sept. 13.—By the <i>Parina</i> =Demerata:		
George A. Alden & Co.	10,000	
Franc & Co.	10,000	20,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—AUGUST.

Imports:	Pounds.	Value.
India-rubber	3,605,844	\$2,060,719
Gutta-percha	75,057	22,358
Gutta-jelutong (Pontianak)	1,199,403	47,923
Total	4,880,304	\$2,731,030
Exports:		
India-rubber	101,305	\$7,956
Reclaimed rubber	122,427	22,236
Rubber Scrap Imported	1,439,595	\$115,640
Rubber Scrap Exported	4,735	1,369

BOSTON ARRIVALS.

	POUNDS.
July 5.—By the <i>Kennebec</i> =Singapore:	
George A. Alden & Co.—Ceylon	800
July 9.—By the <i>Michigan</i> =Liverpool:	
Poel & Arnold—African	10,276
July 10.—By the <i>Bohemian</i> =Liverpool:	
William Wright & Co.—Central	39,577
July 14.—By the <i>Sylvania</i> =Liverpool:	
A. T. Morse & Co.—Almedina gum	5,078
July 17.—By the <i>Canadian</i> =Liverpool:	
William Wright & Co.—Central	38,478
July 19.—By the <i>Willenfels</i> =Calcutta:	
George A. Alden & Co.—East Indian	2,673
July 23.—By the <i>Sachsen</i> =Liverpool:	
Poel & Arnold—African	1,231
July 30.—By the <i>Sagamore</i> =Liverpool:	
Poel & Arnold—African	15,624
Total	104,837
[Value \$94,340]	

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS)

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1906	4,675,715	296,030	4,379,685
January-June	33,531,140	1,783,948	31,747,192
Seven months, 1906	38,207,157	2,079,078	36,127,479
Seven months, 1905	42,382,481	1,843,536	40,547,945
Seven months, 1904	37,089,032	1,979,724	35,709,308

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1906	2,505,750	1,102,640	1,403,110
January-June	20,419,720	5,496,140	15,001,580
Seven months, 1906	23,006,500	6,511,780	16,494,720
Seven months, 1905	26,274,000	8,455,700	17,828,300
Seven months, 1904	20,281,080	5,818,700	14,972,980

GREAT BRITAIN

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1906	4,581,360	2,793,616	1,787,744
January-June	34,477,744	18,736,480	15,741,264
Seven months, 1906	39,059,104	21,530,066	17,529,038
Seven months, 1905	37,519,776	20,445,720	17,074,056
Seven months, 1904	34,992,048	19,453,280	15,538,768

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
July, 1906	1,944,500	1,717,540	227,260
January-June	17,757,740	8,511,800	9,245,940
Seven months, 1906	19,702,540	10,229,340	9,473,200
Seven months, 1905	16,462,820	9,477,820	6,985,000
Seven months, 1904	12,802,680	7,388,260	5,414,420

NOTE.—German statistics before Jan. 1, 1906, include Gutta percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian, and Italian figures include Gutta percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

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INDIA RUBBER WORLD

CAOUTCHOUC *HEVEA BRASILIENSIS* *DICHOPSIS GUTTA* GUTTA-PERCHA

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COMPOUNDING RUBBER MILK.

THERE is very much interest just now in the Far East, particularly in Ceylon, over the experiments of Mr. Kelway Bamber in compounding rubber latex. Not a few predict a revolution in rubber manufacture and its removal from the temperate zone, where it now is carried on, to the tropical or sub-tropical countries, where rubber is produced.

It is not the writer's wish to appear in the slightest degree to underrate Mr. Bamber's ability nor to ignore the excellent work that he has done in connection with cultivated rubber. He is an intelligent, scholarly, investigator, but he does not understand the rubber manufacture. If the reports of the general scope of his processes are to be believed, he takes Para milk, adds to it a proportion of sulphur, and, if the goods are to be other than "pure gum", adds also litharge, whiting, lampblack, barytes, zinc oxide, or whatever of the many metallic oxides or earthy materials are called for to produce certain finished goods. This dough he plans to ship to the rubber manufacturer ready for the warmer and the calender or the churn and the spreader.

The advantage claimed is that washing, drying, breaking down, and mixing are accomplished far more easily and cheaply than by the present practice, and therein is a saving in dollars and cents. Just what this saving amounts to per pound is not stated, but it cannot be much. As he is working on Ceylon rubber milk, it is only fair that the basis of comparison should be Ceylon rubber. As it comes to the market to-day, clean and almost dry, a very short time in the dryer—a few hours—makes it ready for the mixer. It is soft in texture at best and needs little breaking down before the compounds are added. Taken as a whole, it is doubtful if the cost of handling up to the calender or spreader is $\frac{1}{3}$ of a cent a pound.

Now against this must be put the cost of freight for the compounds to Ceylon, and the same cost back to the consuming countries, plus Mr. Bamber's cost of mixing. If litharge, whiting, and all the rest of their kin were found wild in the island, or were at present in an advanced state of cultivation, it would be a bit better, but only one compounding ingredient is at present indigenous to Ceylon and that is graphite, which certainly cannot be added to tire stocks for example. Further than this, how is any one going to compound for factories that have their own formulas, and that do not and cannot explain them understandingly to a scientist thousands of miles away? The rubber manufacturers would never dare to put stock of another man's compounding into their goods, unless at a vastly decreased first cost, and then only after careful test and analysis of each lot.

Suppose a few tons of Bamber's red antimony stock for high grade valves was started from Ceylon, in the hold of a steamer that traversed the Indian ocean and the Red sea—not to speak of the Mediterranean in sum-

mer? Wouldn't that stock be pretty well vulcanized before it reached the nearest rubber factory?

Suppose further, that Mr. Bamber cabled President Dale of the Rubber Goods Manufacturing Co. (of course in code): "Have just mixed ten tons Rainbow packing stock, formula 40 per cent. Ceylon milk, 60 per cent. Rainbow, 2 cents a pound, f. o. b. New York. Will you purchase?" Wouldn't the price be too high?

There is much more that might be said about the process, but nothing with the light that we have at present upon it that leads to a belief in its commercial value. At the same time it is interesting, and the work that Mr. Bamber has put upon it of distinct scientific value, and for it he should be congratulated.

THE GOODS MADE OF RUBBER.

EVERY now and then a request comes to hand for a general catalogue of goods made of rubber—something which will embrace all manufactured articles into which rubber enters. Such a book no doubt would be very interesting to look through, but its practical value would not be such as to tempt a business man to incur the expense of getting it out. Besides, no matter how complete the list might be in manuscript, it would not be complete by the time the printers were done with it, so rapidly do new applications of rubber come to light. To be of practical value, catalogues of goods must relate to the output of a single factory, or the stocks of a single dealer, or at least to the articles belonging to a certain line of trade.

A complete list of rubber goods would include pencil tips, deep sea cables, balloons, golf balls, garden hose, beer stoppers, hospital sheeting, automobile tires, wagon springs, combs, telephone receivers, and thousands of other things equally different one from another. And it must be considered that a very large use of rubber is in articles in which it plays a subsidiary part. Even a rubber tire is of no use without the wheeled vehicle upon which to apply it. The hose used on railway trains is only a part of the air brake system. And the millions of pounds of rubber packings made every year are valueless except in connection with steam engines and pumps, and when in use the packing is out of sight, where its existence would not be suspected by the uninformed.

The fact is that it is not easy always to tell what are and what are not "rubber goods," even assuming that good rubber is used. Men's suspenders would hardly figure as rubber goods, although every pair worth having contains a certain amount of rubber. No one asks for a catalogue of all the goods made of iron, or into which iron enters. There is no list of paper goods. And for the above and many other reasons, it is not probable that we shall soon see a complete catalogue of rubber goods. It would be easier, no doubt, to compile a list of manufactured articles in which some application of rubber is not involved.

CEYLON'S RUBBER SHOW.

OUR congratulations to the first proposer of the Ceylon Rubber Exhibition! And to everybody who worked in its development, upon the successful outcome. Congratulations to Dr. Willis, of the botanic gardens, and his colleagues; to the enlightened government of the colony, for its part in the work; and to the rubber planters, not only of Ceylon, but of the neighboring States concerned with rubber.

One result of the exhibition will be to promote interest among planters in scientific plantation methods, to the end that better returns and larger profits will be gained. It will lead to a wider interchange among the planters of experiences and views, so that all may share in the common fund of knowledge of rubber culture. We take it that many rubber manufacturers will now feel a deeper interest in plantation rubber, which will tend both to their interest and that of the planters.

One more point is that the holding of the Ceylon exhibition will fix a higher estimation in public opinion upon rubber planting, and lead to the more intelligent consideration of the subject by investors. It is desirable not only that those with capital to invest shall learn of desirable channels, but that they shall be guarded against mistakes, and the event at Peradeniya should have the effect of bringing to a head, as it were, information on many points connected with rubber, and be the means of dispelling the popular ignorance that has prevailed hitherto.

Finally, news of the rubber show must in time reach the powers that be in the Amazon valley, and teach them that the world is not bound for all time to depend upon Pará for its rubber. Then the Brazilian tax collectors might become less rapacious, and the local governments undertake to do something for the benefit of the rubber traffic, thereby helping themselves, besides promoting the consumption of rubber.

SECOND HAND MACHINERY.

IN business, as in other departments of life, "straws show which way the wind blows," which remark we are moved to make by the suggestion which reaches us that the condition of the second hand machinery trade may be taken as indicating the prosperous condition of the rubber industry. Not that anybody has suspected a lack of prosperity in the rubber business; there have been no important failures for a long time; new factories are going up and old ones being enlarged; and the fact that more rubber is being used is a matter of common knowledge. Still, it is pleasant, now and then, to dwell upon the prosperous condition of one's business, and this is why we stop to think over our correspondent's suggestion regarding second hand machinery.

The point is made that the demand for such machinery is, so to speak, crowding the supply; there are more buyers than sellers. There are people who want machines

at once, instead of waiting for the foundry to fill an order, and they look about to see if there isn't something in the second hand line that will answer. Or a beginner, in a small way, as a matter of economy, buys machinery that has been used once, instead of drawing more heavily upon his capital for new outfit. And why not? We have an idea that at the beginning of more than one very important rubber factory in this country—and most of them began on a small scale—use was made of second hand machinery.

The fact that in the expansion of a rubber works a mill or machine is discarded for a larger one or a different pattern doesn't imply that the thing is worn out. Otherwise, the second hand dealers wouldn't be eager to pay cash for it, to sell again. If it be true, then, that second hand rubber machinery is growing scarcer, we are quite ready to regard it as indication of activity and prosperity in the industry.

A FRENCH SUGGESTION.

NUMEROUS industrial papers in France, as for example one entitled *L'Illustration*, are more or less hysterical about the rate at which crude rubber is being consumed. Indeed the journal named says that this year the consumption has far exceeded the production. Just how that could be accomplished doesn't appear, but it makes good reading just the same.

The author of the special rubber article referred to, M. Coustet, believes that he has found three solutions for the rapidly approaching rubber famine. One is the utilization of mineral rubber, another is by treating linseed oil with azotic acid and forming a rubber substitute, and the third is by producing a substitute by treating tar or oil of turpentine with sulphuric acid. Were these suggestions new to the world of rubber they would be very valuable, but the learned author should know that mineral rubber is already largely used, not as a substitute for rubber, but as an assistant, and that its most enthusiastic friends only claim that it helps in certain compounds. The same is true of the long line of oil and other substitutes, which are useful to be sure, but which cannot in any way take the place of crude rubber.

The gentleman should have suggested the only feasible solution, which is the opening of new wild rubber fields and the planting of greater acreages of rubber producing trees that have been proved susceptible of cultivation.

THE FEAR EXPRESSED that the new English invention for making an artificial rubber from grain will work hardship on the poor, through the conversion of their food into the rich man's automobile tires, may, after all, prove unfounded. It would appear equally practicable to turn the rich man's tires into the poor man's breakfast cereal whenever the general food supply becomes inconveniently short. By the way, in the way of rubber produced from grain, everybody has read about the corn rubber that the newspapers claim

tires are made of. The English inventor might go further. Why not make red rubber from beets, yellow rubber from mustard, green rubber from spinach, extra strong rubber from onions, and so on? In fact, why not utilize all the vegetables?

WHY DOES THE BRITISH RUBBER TRADE continue to complain about dullness in the waterproofing trade? Suppose the demand for mackintoshes and other garments in this class as formerly sold should fall off. Cannot the manufacturers adapt themselves to new conditions? Automobiling is on the increase in Great Britain as well as elsewhere; probably that country to day ranks second in respect of the number of motor cars used. Meanwhile the weather conditions in Britain have not changed, and the motorist needs a waterproof coat in nasty weather quite as much as anybody else ever did. Elsewhere the rubber trade appears to be doing a good business in automobile coats. Why is not the same true in England?

SOME OF THE TIRE REPAIR SHOPS which have grown up of late in the larger centers of automobiling are on a larger scale than many early rubber factories that were regarded as very respectable establishments. It is natural that the business of repairing rubber goods should first have been developed in connection with articles so costly as motor tires, but now that such shops have become fixed institutions, why should not the repair stations take on the mending of rubber goods generally—rubber boots, hot water bottles, mechanical goods, and so on?

THE MACHINE MADE RUBBER SHOE has not yet revolutionized the trade, but it is making progress. It continues to occupy the attention of inventors, and rubber shoes are actually being turned out on a commercial scale by the use of machinery. Progress in this direction certainly has been as rapid as at the beginning of the substitution of machine work for typesetting by hand, and yet within a score of years the typesetting machines have come into universal use.

PRICES REALIZED FOR PLANTATION RUBBER at the London auctions have not been so well maintained as on native Pará rubber. For example, the highest price realized for plantation rubber during a recent month was 18 cents per pound less than was paid at the same date last year, while the highest price for native Pará was only 10 cents less than in September, 1905. This showing is quite in keeping with predictions made in *THE INDIA RUBBER WORLD* when the Ceylon plantation product first appeared in the market. The price difference between plantation and other rubber has undoubtedly been a trifle higher than was justified by the intrinsic value of the former, and present figures perhaps more accurately gauge its appreciation by manufacturers than did the prices realized at the earlier sales.

THE IMPRESSION IS WIDESPREAD IN THE TRADE that rubber scrap is too high. There are those who believe that shoes, for instance, should be had at 4 or 5 cents, instead of in the neighborhood of 10 cents. At the same time, there is no indication that such a decline is near at hand. The situation affords an opportunity for introducing such new gums as Guayule rubber, which manufacturers will hardly fail to take advantage of.

AMERICANS IN CONGO RUBBER.

THE management of the Continental Rubber Co. (New York) have been reticent about giving any information regarding negotiations currently reported for some weeks past to have been pending between American interests affiliated with that company, and the government of the Congo Free State, for the admission of the Americans to a share in the Congo rubber trade. The following statement, which appeared in the New York *Herald* of October 20, 1906, is believed to have been derived from a well-informed source:

News received by cable from London yesterday announced the sailing of Thomas F. Ryan by the *Celtic*, of the White Star line, and a successful termination of an important trade agreement with the King of Belgium concerning the Congo. This agreement has been under negotiation for two months, and several distorted stories about it have been printed in this country.

Little is known in America, except among Mr. Ryan's intimate associates, as to the nature of these negotiations, and these men have persistently refused to discuss the subject. One of them yesterday admitted, however, that Mr. Ryan had obtained a firm foothold in the Congo Free State for American enterprise, and on broader lines than had been suggested in any of the brief cable despatches announcing the progress of the negotiations in Brussels. The agreement, he let it be understood, secured, among other things, to Americans the exclusive right to gather rubber over a vast and easily accessible forest area.

This tract conceded to Mr. Ryan and his associates is to be immediately developed on a scale never before attempted in any field. It was said yesterday that the Continental Rubber Co., of which Mr. Ryan is a director, has no corporate connection of any kind with what is known as the Rubber Trust, beyond that the trust, in common with other great users of crude rubber, purchases material from it. The concession assures to the inhabitants of wide and easily accessible areas light and profitable employment under humane American administration.

There is a disinclination on the part of Mr. Ryan's associates to give any definite information as to the concessions he has obtained pending his arrival in this country within ten days.

The American Congo Co. filed articles of incorporation on October 22, 1906, under the laws of New York state, with a capitalization of \$510,000. The incorporators were S. Davis, A. F. Gerbe, and W. H. Thompson. At the offices of the Continental Rubber Co. no statement was forthcoming in relation to the new company, which is regarded by many in the trade as having been planned to cover the operations of the American interest in the Congo rubber region.

ACRE DISTRICT RUBBER AFFAIRS.

ONE of the leading rubber traders from the Acre district was chatting recently with the Editor of THE INDIA RUBBER WORLD, and said: "It probably is not appreciated that the rubber gatherers and handlers in our part of South America are waking up more rapidly to the need for improved methods and definite knowledge of our business than are any other gatherers of wild rubber in the world. We have in the past suffered so from the fluctuations of Brazilian exchange that the original owners of rubber concessions have practically passed out of being, the present owners being the active, energetic creditors who are the pioneers and engineers of our country. They have long had their eyes on the Far East, and are already experimenting with coagula-

ting machines and methods that shall do away with the present wasteful and slow smoking process. It is not generally known, but it is through the smoking of the rubber that the laborer gets most of his fever. This happens because he is obliged to sit near an exceedingly hot fire for an hour or more, and at the end of that time, no matter what his employer may say, will plunge into the nearest stream and cool off too rapidly and thus get fever. The rubber handlers of the Acre are also planning to ship their rubber direct through to New York. This will be a definite saving as the export duty on the rubber is only 12 per cent, as against 23 per cent, assessed in Pará or Manáos. Further than this they are at the present time fixing the value of rubber at the beginning of the crop season for the year, so that a man knows exactly what duty he must pay instead of having to depend upon market fluctuation. For this year the duty to be assessed is 3 bolivianos 40 centimes for fine, 2.55 bolivianos for coarse, and 2.10 bolivianos for Caucho. As Bolivian money is very much more stable than Brazilian, it will be seen that the rubber trader is very much better placed than if he were taking his rubber either to Pará or Manáos."

ALUMINUM FLAKE IN RUBBER COMPOUNDS.

A VERY curious natural product, which has been described as "an extraordinary geological occurrence," is what is known as aluminum flake. It is a light powder, absolutely free from grit, with a gravity of 2.58 and contains so large a proportion of aluminum that 48 per cent, of metallic aluminum has been separated from it successfully. It is a remarkable heat resistant and at the same time highly plastic. It is used to-day by a number of rubber manufacturers as a substitute for zinc oxide, in whole or in part, in nearly all kinds of work where that is used.

Rubber manufacturers, who have been questioned about its use, claim that in a tire, for example, it gives greater carrying capacity and doesn't chip at all, it is absolutely inert, it lessens the gravity of the rubber, and at the same time toughens and gives it life. Aluminum flake was introduced to the trade by Mr. Frank Reifsnider, of Akron, Ohio, who is a well known and expert rubber manufacturer, and who is to be congratulated on his success in giving a new and valuable compounding ingredient to the trade.

THE Anglo-American Rubber Co., mentioned in THE INDIA RUBBER WORLD last month as having established a depot at 58, Holborn viaduct, London, for the sale of American mechanical rubber goods, are the sole European representatives of the Peerless Rubber Manufacturing Co. (New York). This is also the European depot of Morgan & Wright (Detroit), the New York Belting and Packing Co., Limited, and Hartford Rubber Works Co.

THRELFALL CARR Rubber Syndicate, Limited, has been registered in London, with £5000 capital, to acquire from W. T. Carr provisional protection No. 13,513 (1906) for all the British and foreign rights held by him, and to carry on the business of manufacturing materials used as substitutes for India-rubber and Gutta-percha. This is the patent for utilizing cereals as a material for substitutes, referred to in THE INDIA RUBBER WORLD, October 1, 1906 (page 24).

THE USE OF MAGNESIA WITH RUBBER COMPOUNDS.

By Werner Esch, Ph. D.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The issue of your journal of September 1 mentioned (on page 389) the use of Magnesia with India rubber compounds, especially taking notice of some recent papers of Dr. Ditmar. I find that a serious mistake has been made by your correspondent, for he speaks of light *carbonate* of Magnesia, while the papers of Dr. Ditmar dealt with heavy *calcined* Magnesia and light *calcined* Magnesia, both of them being in a chemical sense *oxide* of Magnesia. Your correspondent in fact confounds calcined Magnesia with carbonate of Magnesia. The difference of the contents of pure oxide of Magnesium ($Mg\ O$) in both of the technically used Magnesia products is very important, carbonate of Magnesia containing between 30 to 45 per cent. of $Mg\ O$, while oxide of Magnesium contains 96 to 98 per cent. $Mg\ O$. Only the latter is used as an accelerator of the vulcanization, carbonate of Magnesia only being a filler and having nearly the same effect together with rubber compounds as whiting has.

It is a scarcely known fact that Charles Goodyear, the pioneer of the vulcanized rubber industry, already has made use of calcined Magnesia in several of his rubber compounds. The use of calcined Magnesia has been confined for a long time to only a few rubber compounds, but, by the remarkable development of the rubber trade, especially the tire industry, the industry of open steam cured goods, and the manufacture of rubber insulated cables, etc., the use of calcined Magnesia has highly increased. Most of the big rubber factories in Europe and America can not do without this highly appreciated chemical. The vulcanization—i.e., "addition" of sulphur to India-rubber, in chemical meaning—can easily be accelerated by appropriate additions of calcined Magnesia to the compound in question. Such an addition is often inevitable especially together with pitch like or soft rubbers in open steam cured compounds. All rubbers with a high amount of resins, such as Mexican Guayule, Cameroon, Assam, Borneo, etc., usually give better goods, if compounded with appropriate additions of calcined Magnesia; but even the best Bolivian Pará rubber gets a better tenacity, if compounded with calcined Magnesia than without this accelerator of vulcanization.

There exist two kinds of calcined Magnesia: the *heavy* and the *light* calcined. Heavy calcined Magnesia is produced by calcining heavy carbonate of Magnesia, which carbonate is won by precipitation of hot Magnesia solutions by hot solutions of soda. The light calcined Magnesia is produced by calcining the light carbonate of Magnesia, and this light carbonate is the precipitation product of Magnesia solution together with soda solutions, both carefully cooled. The difference of both kinds of calcined Magnesia concerns only the structure, so that light calcined Magnesia in a dry state seems to have a very big volume, but if the air bladders are driven away and the pores of the material filled by introducing the light Magnesia into liquids, it is easily to be seen that the big volume cannot have the expected effect, if light calcined Magnesia is kneaded together with India-rubber on the mixing rollers.

Only to give the reader an idea of the possibility, that both

kinds of the calcined Magnesia have in dry state a very different volume, but do in fact possess quite the same specific gravity (which must be determined under paraffine oil, because water has a chemical action on Magnesia, producing hydrate of Magnesia) it may be pointed out that a ball and a hollow cylinder, which may have quite the same volume and replace both quite the same quantity of oil or other liquids, in a dry accumulation in measuring cylinder tubes will show quite a different "apparent volume".

By the special structure of the light calcined Magnesia 100 grams of this material show a volume of 763 cubic centimeters by dry introduction into a graduated tube for measuring, against 141 cubic centimeters with heavy calcined Magnesia under the same conditions. Then may be introduced into each of the same graduated tubes 100 cubic centimeters of heavy mineral oil, and the tubes may be slowly heated until all air bladders have disappeared: after cooling, the tube containing heavy calcined Magnesia will show 127 to 129 cubic centimeters, and the tube containing light calcined Magnesia 129 to 131 cubic centimeters; that is to say: the specific gravity of both kinds of calcined Magnesia are practically identical. The same conditions take place, if both kinds of calcined Magnesia are mixed with India-rubber.

If one kilogram of heavy calcined Magnesia is introduced into a rubber compound, only 1100 cubic centimeters of air bladders must be driven out, while in introducing one kilogram of light calcined Magnesia into a rubber compound, one has to drive out the high amount of 7300 cubic centimeters. This comparison shows the superiority of heavy calcined Magnesia evidently.

Comparative experiments on the acceleration of the vulcanization by additions of different kinds of Magnesia have thoroughly proved that the heavy calcined Magnesia (special rubber quality Lehmann & Voss brand) has a higher efficiency relating to the acceleration of the vulcanization than any other brand of calcined Magnesia.

Two corresponding compounds with additions of 20 per cent. calcined Magnesia gave the following coefficients of vulcanization: [Coefficient of vulcanization means the amount of chemically combined sulphur which is calculated on 100 parts of pure rubber (free from resins, etc.)]:

Heavy calcined Magnesia, Lipsia brand.....	4.99%
Heavy calcined Magnesia, Lehmann & Voss.....	5.42%

Corresponding compounds with additions of 60 per cent. of calcined Magnesia gave the following coefficients of vulcanization:

Heavy calcined Magnesia, Lipsia brand.....	3.91%
Heavy calcined Magnesia, Lehmann & Voss.....	8.05%

Corresponding compounds of 100 reclaimed rubber, 50 calcined Magnesia, and 3 sulphur, gave the following coefficients of vulcanization:

Heavy calcined Magnesia, Lipsia brand.....	6.91%
Heavy calcined Magnesia, Lehmann & Voss.....	9.37%

Finally, corresponding compounds of 100 reclaimed rubber, 20 calcined Magnesia, and 7 sulphur, gave the following coefficients of vulcanization:

Heavy calcined Magnesia, Lipsia brand.....	5.71%
Light calcined Magnesia, Lipsia brand.....	5.76%
Heavy calcined Magnesia, Lehmann & Voss.....	6.11%

These experiments have been carried out by chemists who

have been commissioned by the Lipsia chemical works. The false conclusions which have been made by several chemists are based on the fact that, owing to the higher vulcanizing efficiency of the heavy calcined Magnesia (L. & V.) many samples have been *overvulcanized*, which can easily be seen by the amount of the coefficients of vulcanization. Under appropriate conditions best results are acquired by the exclusive use of heavy calcined Magnesia. All the compounds above mentioned are only for illustration of the efficiency.

Hamburg, September 15, 1906.

THE EDITOR'S BOOK TABLE.

THE CEYLON HANDBOOK AND DIRECTORY AND COMPENDIUM OF Useful Information for 1906-07. To which is prefixed a Statistical Summary for the Colony and Review of the Planting Enterprise. Up to July, 1906, Compiled and Edited under the Supervision of J. Ferguson, C. M. G., M. L. C., Colombo. A. M. & J. Ferguson. 1906. [Cloth. 12 mo. Pp. XXXVIII + 1411. Price, 15 rupees, at Colombo.]

THE forty-eighth annual issue of this standard publication not only maintains its reputation for completeness, accuracy, and up-to-dateness; it goes further, through the addition of new features, and merits a new measure of commendation for the *Ceylon Observer* people, its proprietors. One finds here not only a complete handbook of the island, its government, business, and social institutions, but a directory of estates, with their location, owners and managers, acreage, with what planted, and so on. Originally, of course, this information related chiefly to tea, the planting first developed systematically in Ceylon, but to-day the book is equally complete as to the statistics of rubber, making it a record of value to all who are concerned in any way in Ceylon rubber.

THE CULTIVATION OF *FICUS ELASTICA*, THE INDIA-RUBBER OF the East. By Claud Bald. Calcutta: Thacker, Spink & Co. 1906. [Svo. Pp. vi+32. 4 plates. Price 25. 3d. net.]

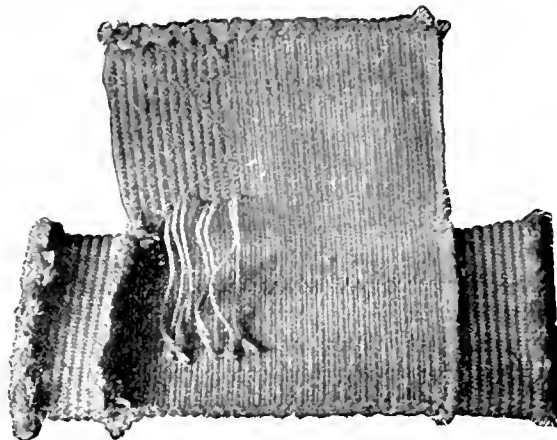
THE various rubber species under cultivation in Ceylon and the Malay States are regarded by Mr. Bald as less adapted to India than the indigenous *Ficus elastica*, which, by the way, has been planted longer than any other rubber tree. It has not been cultivated anywhere extensively, however, and many problems in relation to it have been solved only partially. The object of the author is to supply a treatise in handy compact form, which shall present such facts from authentic sources as will serve as a guide to those contemplating forming rubber plantations, and at the same time a warning against going into the business without due regard to the conditions—as of soil, rainfall, elevation, and the like—essential to success.

HEAVY RUBBER FOOTWEAR IN RUSSIA.

REPORTING on the footwear trade in Russia, the United States consul at Vladivostock, Mr. Roger S. Greene, writes: "A very large quantity of rubber overshoes and artics is used, as practically every man, woman and child who can afford to wears them, as they are indispensable against the winter cold and the muddy spring. Those now sold here are mostly made at St. Petersburg and at Riga. They are of very thick rubber, especially those for winter use, with a lining of wool or cotton. On account of this thickness the rubbers can be slipped or stamped on without using the bands, not such a trivial consideration, when muddy rubbers must continually be taken off or put on. The most common kind is made with a high front that nearly covers the whole of a low shoe.

SMOOTH INTERIORS FOR FIRE HOSE.

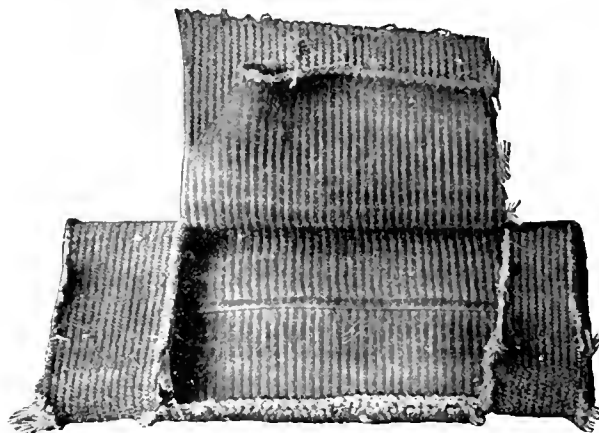
THERE is no longer room for argument to prove the advantage of having a smooth interior for rubber lined fire hose. It has long been felt desirable, therefore, that hose should be so woven as to present a minimum of corrugations inside, since the rubber lining tends, in time at



THE NEW WAY.

The smooth interior weave. This remedies the fault in cotton fire hose of corrugations under pressure. The filling cord also adds strength to the cover.

least, to adapt itself under pressure to all the irregularities of the hose surface. A recent improvement in the manufacture of fire hose is an attachment to the loom that gives a smooth interior weave. An advantage of this method, apart from the production of a smooth hose, is that the hose is strengthened to an appreciable extent by the filling up of the corrugations with the extra cord. It would seem that



THE OLD WAY.

The old weave. The rubber lining in this weave, if really elastic, will corrugate under pressure, and as soon as the tube loses its elasticity, it remains corrugated, as in the picture.

this would make a marked difference in the stream from a long line of hose on a high building—a difference not only to the firemen but in the pumping apparatus. This new feature in weaving is utilized in the looms of the Eureka Fire Hose Co. (New York). Two illustrations shown herewith will give a clear idea of the difference between the "old" and the "new" methods.

THE management of the West Jersey and Seashore railroad have issued an order to the effect that freight hands must wear rubber boots until they are thoroughly familiar with the third rail electric system, the boots serving as a protection from electric shocks.

RUBBER PLANTING IN THE FAR EAST.

RAPID EXTENSION IN CEYLON.

AN idea of the great extension of rubber planting in Ceylon during the past three years may be gained from the following comparison of the acreage in rubber in the principal rubber planting districts, in July, 1906, with the acreage in July, 1903, the figures being compiled from Ferguson's "Ceylon Handbook."

DISTRICTS.	Acre, 1903.	Acre, 1906.	DISTRICTS.	Acre, 1903.	Acre, 1906.
Galagedera....	50	1,880	Matale East....	47	2,626
Galle.....	—	3,947	Matale South....	80	1,690
Kalutara.....	2,357	15,493	Matale West....	90	6,832
Kegalla.....	150	6,232	Monaragala.....	143	3,497
Kelani Valley..	4,100	21,701	Passara.....	31	1,952
Kurunegala.....	50	3,878	Ratnapura.....		7,070

Whereas the rubber planted in these districts three years ago amounted to only 7107 acres, the returns at the middle of this year were 77,807—a ten-fold increase—not counting more than 2,000,000 rubber trees, planted under various conditions and not included in the reports of acreage. The same rate of increase has prevailed throughout the island, for there is now rubber in 46 of the 57 political divisions. Ferguson's total estimate of rubber planted was 11,630 acres three years ago, and 103,766 acres in July this year.

Of this, 68,364 acres are reported as being in rubber alone, 17,802 in rubber planted with tea, and 7852 acres in rubber planted with cacao. The total 103,766 acres is arrived at by adding the rubber reported by number of trees instead of acres, at an average of 175 trees per acre. These figures do not include any planting done by natives. It is estimated by Ferguson that the eventual extent of rubber on Ceylon estates will be 150,000 acres.

The increase in the yield of plantation rubber in Ceylon has been rapid, due to new trees coming into bearing and an increase in the rate of yield. Exports in 1903 amounted to 41,798 pounds. During the twelve months ended June 30, 1906, exports reached 238,647 pounds.

The growing interest in rubber in Ceylon is shown further by the number of large companies formed to acquire rubber estates. Selecting only those indicated by their titles as devoted to rubber, Ferguson's company list shows over 70—a class of companies which did not exist three years ago. Altogether, of the 1583 cultivated estates of all kinds of which Ferguson gives statistics, no fewer than 665 embrace more or less rubber.

LONDON OPINION OF RUBBER PLANTING.

THE *Times of Ceylon's* London correspondent writes to his paper: "The position of rubber shares generally is undergoing a gradual change here in London, and on the whole a healthy one. We hear very little now of the 'produce-it-for-fourpence-and-sell-it-for-6s. od.' which was characteristic of the earlier days of the boom. It is now becoming gradually recognized that while the potential profits of rubber planting are far greater than those, *e.g.*, of tea planting, even rubber planting is not going to be exempt from its share of the evils which attend all human things. It is being whispered that there are going to be difficulties with labor, that disease is not a contingency to be entirely lost sight of, and above all that the price is not always going to remain at over 6s. Discuss-

ing this last point with a produce broker in close touch with the plantation rubber industry, he remarked that in all probability we should never see 6 shillings again; the price, he said, had got to come down, and when it did the uses of the article would increase enormously. He thought there would always be a more or less fixed relation between the price of Pará and of Plantation, but which would be highest in the future he would not undertake to say—everything would depend on whether on further use plantation rubber proved suitable for the general purposes of manufacturers. He thought planters should continue experimenting with smoking and in other ways get their rubber harder."

THE SITUATION IN MALAYA.

MENTION was made in these pages last month of the estimate by Mr. Carruthers, in the government service in the Federated Malay States, of the amount of rubber planting there—about 38,000 acres. It should not be considered that the total acreage there is so much smaller than in Ceylon as comparison with Ferguson's figures would indicate. In the first place, the 38,000 acre estimate is a year old, and much rubber has been planted meanwhile. At the same time, it is probable that some of the Ceylon estimates supplied to Ferguson related to planting in progress at the time that was never carried out. Taking into account the rubber planted in Johore and the Straits Settlements, as well as in the Federated States, *The Times of Ceylon* is disposed to regard the age in all Malaya as large as in Ceylon.

Statistics of yield and export of cultivated rubber in the Federated Malay States are not always available promptly. Official figures now to hand show exports during 1905 as follows:

	Pounds.
From Selangor.....	159,867
From Negri Sembilan.....	45,467
From Perak.....	26,606
Total.....	232,000

The official export figures for Ceylon in 1905 were 168,547 pounds. Since the beginning of this year the exports of cultivated rubber from Malaya have been growing at a more rapid rate than from Ceylon. It may be cause for surprise to some readers to learn that the Straits production exceeds that of Ceylon, but it appears that, while actual planting began first in Ceylon, and afforded a seed supply for the Federated States, the planters of the latter section were the most prompt to go into rubber seriously and on an extensive scale.

PRIZE RUBBER PLANTATION PRODUCTS.

THE rubber department of the third joint annual agricultural show at Singapore, on August 16 18, is reported to have been very interesting. There were many former Ceylon planters present and other well known Straits planters. The show was opened by the governor, Sir John Anderson, K. C. M. G. The rubber exhibits showed an improvement on last year, this being most marked in curing. They were mostly in the form of sheet and crepe, and of the latter there were some very fine samples. A sample of block rubber sent in by Mr. Pears, of Lanadron estate, Johore, which took a prize, attracted much attention.

It was regarded as the best sample of rubber in the show. Rubber was shown by Lowlands, Vallambrosa, Golden Hope, and other estates. Cups were awarded to Highlands and Lowlands estate for Pará sheet and rambong (*Ficus*) rubber; Lanadron estate for Pará biscuits, Pará crepe and Pará rubber packed in boxes; Bertram estate, for Pará scrap. Demonstrations were given by the Federated Engineering Co., of Kuala Lumpur, with their washing machines, in the production of crude rubber. It was expected that the rubber exhibits would be forwarded to the Ceylon rubber exhibition.

At the agri-horticultural show held by the local branch of the Ceylon Agricultural Society, in Kurunegala district, on August 23, some excellent samples of rubber were exhibited, though there were few competitors for the two prizes offered. The gold medal for Pará biscuits was won by A. S. Long Price, of Delwita estate. Mr. Holloway, of Kepitigala, was awarded the prize for scrap rubber, for really excellent exhibits. Among the samples not shown for competition were some Ceará biscuits, brought in by Mr. E. Scott, and which were very favorably commented on.

VACUUM DRYER FOR RUBBER MAKING.

A vacuum drying chamber mentioned in these pages some time ago as having been placed on the estate of the Bukit Rajah Rubber Co., Limited, in Selangor, for use in the preparation of rubber, is reported to be working satisfactorily. It is of a size to receive 120 pounds of wet rubber at a charge, about 2 hours being required for the drying of sheets or biscuits. Samples of rubber so dried and sent to London were favorably reported on and are said to have fetched the top price. The rubber is of a somewhat lighter color than air dried rubber. More recently three other estates in the Far East have been supplied with vacuum driers for rubber. One of them, the Lanadron Estate, Limited, was awarded a prize for vacuum cured Pará crepe rubber at the recent agri-horticultural show at Singapore.

At Bukit Rajah the rubber sheets are placed upon perforated trays upon shelves in the heating chamber, and an air pump operated by steam is set to work to produce the vacuum. After the steam has driven the pump it passes to the heating shelves of the drying chamber and affects the evaporation. This is an economical method of working, in that it largely does away with the fuel bill for drying.

Assuming the quality of the rubber produced to be all that can be desired, there are two important items of economy in the use of vacuum drying. One is in the labor cost, since a given lot of rubber requires to be handled and cared for only a small part of a day, as against weeks by other methods, and there is the further advantage of being able to market his rubber so much more promptly. The other economical feature is in the great saving of space as against the employment of the typical rubber drying room now in use in the East. A single small dryer such as described above, operated 10 hours, would handle 1200 pounds of wet rubber per day or 7200 pounds per week—an amount of material which would require a great deal of space for spreading out on the shelves of a drying room, where it would require weeks to become ready for market. This feature will become of great importance when, in the near future, the rubber production of the Far East amounts to millions of pounds a year.

FEDERATED MALAY STATES.

A new rubber planting company is the Sungei Kapar, with headquarters at 40, Castle street, Edinburgh, formed to acquire Sungei Kapar estate (11338 acres) and Brafferton (1000 acres), in Klang district, Federated Malay States. On the first named property 1100 acres have been planted to Pará rubber, and 200 acres, planted in 1907, it is planned to tap next year. A large amount of planting is now under way. The capital is \$110,000 [=£535,315], of which no part is available to the public. Mr. W. W. Bailey is one of the directors.

RUBBER PLANTING MISCELLANY.

A CORRESPONDENT of the *Journal* of the Jamaica Agricultural Society, writing in an unfavorable vein in regard to rubber planting, mentions that near Sinis river, in the department of Bolivar, in Colombia, "there exists a rubber plantation of *Castilloa elastica*, belonging to American capitalists. They have some 300,000 trees, and the plantation is 15 years old. They began tapping in 1901, but it is reported to barely pay the expenses of the place. This, too, in the very district where *Castilloa* grows wild." The editor of the *Journal* comments: "It is a fact that of the many American companies got up to plant rubber in Central America, not a few were simply promoted by stockholders for their own benefit, and have not been successful. But this does not at all indicate that the growing of rubber is not, and will not be, a profitable concern, even if only a few such companies have so far proved paying concerns."

Writing of rubber planting in the Congo Free State, in *The Financier* (London), Arnold H. Malet says that the vines that are being planted under governmental regulations are the *Landolphia Owariensis* and *L. Klainei*. He predicts a good yield when these vines come to be tapped, under European supervision, and that the rubber will be prepared with the aid of machinery, instead of the crude methods now in vogue among the natives.

The well known rubber machinery makers, Messrs. J. Robinson & Co. (Manchester, England), offer for use on rubber estates a two roll washing mill, with rolls 12 inches in diameter by 15 inches long, grooved rolls being supplied for crepe rubber and smooth rolls for sheet. This apparatus does not differ from the washers used in rubber factory work and their introduction in plantation practice is of interest as being along the line of suggestions made by the Editor of THE INDIA RUBBER WORLD while visiting rubber estates in the Far East.

Dr. A. H. Suggett, of Marysville, California, who is interested in an important way in rubber planting in Mexico, sailed from New York during the month for Ceylon, with a view to studying methods of rubber culture there.

At a recent sale of government lands in Kalutara a number of lots aggregating 780 acres were sold to five purchasers, for rubber planting, at an aggregate of 79,600 rupees [=£25,824.89 gold], or an average of \$33.10 per acre.

The administration report for Kalutara district, Ceylon, for 1905, states that the output of plantation rubber during that year was 45½ tons [=101,920 pounds], and that 88,667 trees were in bearing at the end of the year. This would give an average of about 1½ pounds per tree.

Payment has been made on preference shares of the Malacca Rubber Plantations, Limited, at the rate of 7½ per cent. per annum for the half year ended June 30, 1906.

THE SOURCES OF THE LATEX OF RUBBER.

IN a lecture before a number of rubber planters at Ratnapura, Ceylon, Mr. Herbert Wright, of the government experiment station at Peradeniy, discussed at length the construction and formation of the channels from which latex—the rubber liquid—is obtained from the trees.

The lecturer exhibited, under the microscope, sections of *Hevea* seedlings, to illustrate "where the rubber comes from." In these could be seen the embryonic parts of the giant rubber trees, and the origin of the latex (milk) tubes traced out. There could be seen a mass of minute and more or less regular boxes or cells in the bark, the material from which the future latex tubes arise; running frequently throughout that beautiful network were long irregular strands of deeply stained tissues connected here and there with cross-bands to form a contorted ladder like structure—that is the laticiferous system—a system only in so far that it is irregularly connected at various points, and composed of latex cells or tubes in all their stages. In a well grown tree, by the way, the latex tubes run more or less vertically up and down the stem.

With the growth of the plant, the latex tubes arise and become filled with the globules of the different substances which ultimately give the rubber of commerce. Here and there can be seen the breaking down of cells and the production of a single tube by the disappearance of partition walls. This decomposition, essential for the production of latex tubes in the *Hevea*, continues throughout the life of the tree. What seem normal and regular cells in the bark to day may begin to show perforations to-morrow, and within a few weeks a system of milk tubes may arise in an area which, had it been tapped too early, would never have yielded a drop of rubber.

Essential points to be considered are (1) that the latex tubes arise by the perforation and decomposition of ordinary cells of the bark; (2) that the processes involved require an interval of time for their completion; and (3) that in tapping operations a series of channels are dealt with which have no very vital association with other parts of the bark. As for the latter point, it is ridiculous to compare the laticiferous system of the rubber trees with the circulatory system of human beings. The lecturer would rather compare the importance of latex to the plant with human hair, which can be regularly removed, and as regularly reappears. Hence no matter how much latex is removed, the tree continues to flourish, provided the tapping is done with proper care.

The bark of a growing tree is formed from within outwards; new cells are continually being formed which push the older ones outward. All these cells, at some time or other, are liable to undergo decomposition and to assist in the production of latex tubes. And the material now constituting part of the dead dry bark of untapped rubber trees was originally part of the inner bark and probably contained latex.

It is not in the extraction of latex that harm is done to trees so much as in the removal of the bark containing that substance. The bark, or cortical tissue, which is removed in tapping does contain organized systems of elements which are of vital importance to the tree. If removed too quickly

the life of the tree is endangered. If all the cortical tissue is removed—that is, if the bark from all sides of the tree—is removed oftener than once in three or four years, the result is likely to be fatal.

During ordinary tapping operations the cortical cells are cut into while in a living condition, and removed at a time when they contain food intended for the use of the plant. The sooner it is realized that the bark is really the "mother of rubber," the better it will be for all concerned, since its removal means a reduction in subsequent yields. Hence the importance of not tapping too frequently.

It might be supposed that if the latex were not extracted it would become more concentrated, and more rubber would be contained in a given volume of latex. But in the case of some *Hevea* trees at Heneratgoda tapped for the first time at the age of 30 years, the first tapplings, which drew out what might have been considered the concentrated caoutchouc emulsion of many years, gave rubber of inferior quality. The same feature has been observed in rubber from younger trees when tapped for the first time, and whatever the cause, the results do not encourage one to leave mature trees alone for too long an interval, with the idea of getting a higher quality of latex at a subsequent date. Mr. Wright was inclined to think that if the latex could be extracted by some method that would not destroy the cambium or the bark (cortex), the tree could be drained almost dry of latex without being affected injuriously.

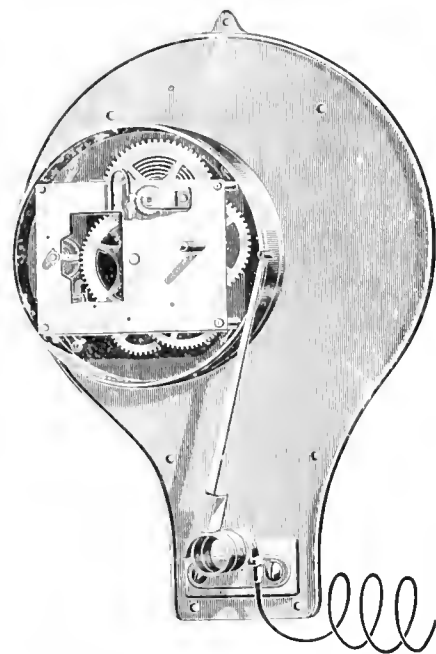
The amount of yield does not always correspond to the number of tapplings. The trees in one area tapped daily for a certain period—for 264 times—gave an average of 9 pounds of dry rubber each, while similar trees tapped 131 times, on alternate days, gave an average of 11 pounds. In the first case, all the original bark had been removed, and in the latter only half the original bark. There is ground for believing that, when incision of the latex tubes is made more perfect than at present, the interval between tapping operations may, with advantage, become still longer and yet be accompanied with a further increase in yield and saving of labor.

The lecturer did not discuss the various methods of tapping applied to *Hevea* in Ceylon, but felt that fuller series of results than are now available would, in view of the present knowledge of the origin and construction of latex tubes, enable many important questions to be answered satisfactorily. Summing up, he said: "The latex tubes and their contents require an interval of time to form or accumulate; if they are tapped too frequently they are less turgid and the yield therefrom is reduced; if the bark is removed too quickly, either by too frequent or too extensive tapping, the material whereby latex tubes might have subsequently developed is completely severed. If you leave the bark on the tree for a certain interval, probably more latex tubes will be formed and the yield per unit of excised bark increased."

EGYPT.—A United States consular report says: "Rubber tires are in constant demand because the blazing Egyptian sun soon wears them out. The importations of automobiles and motoreycles in 1905 were valued at \$176,000."

THE BRISTOL RECORDING GAGE.

IN many manufacturing industries there are processes of drying, vulcanizing, cooking, and so on, which play an important part in the result or quality of articles produced; in few, however, is the matter of temperature of such vital importance as in the rubber manufacture.



The Bristol Co. (Waterbury, Connecticut), are pioneers in America in the manufacture of recording thermometers for recording temperature at a distance from the heated bulb. The instrument first designed for the purpose was applied to recording temperature of heat in a vulcanizer for rubber boots and shoes.

The illustration shows the interior or working parts of the recorder, which is essentially the well known Bristol

recording gage, which enjoys a world wide reputation owing to its simple design and elimination of levers, gears, pinions, or multiplying mechanism of any description.

The principle on which the thermometer operates is as follows: The bulb is partly filled with a volatile liquid which, when heated, condenses in the small capillary tubing which connects the bulb and recorder, through which pressure is transmitted to the pressure tube in the recorder. This pressure is a definite quantity depending on the temperature of the bulb. Consequently the temperature of the connecting tube or of the pressure tube in the instrument does not affect the accuracy of the record. In other words temperature is not transmitted, but simply pressure, equivalent to the temperature.

In the use of recording thermometers, the superintendent or foreman has an indisputable written record of the temperature at which the goods were cured. If there is anything about the goods which is not just right he knows where to look for the difficulty, instead of spending a night or two at the heater to be sure that the heat has been exactly as reported. The use of recording thermometers eliminates guess work, and reduces the process of vulcanizing to a science.

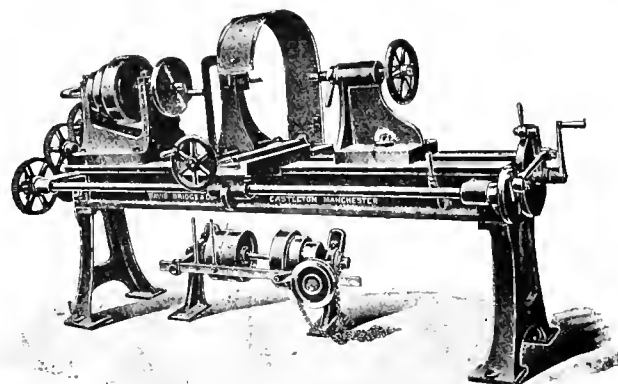
The value of the recording thermometers applies equally well to the vulcanizing of rubber cloth and similar material, also in steam vulcanizers employed in the manufacture of mechanical rubber goods. For use in the latter a special form of bulb, lead covered to protect it from acids, is employed. The recorder itself may be placed at a distance from the position of the bulb. The regular length of connecting tube supplied is 25 feet, but this may be made longer.

The recording thermometers are also suited for drying rooms for crude rubber, and around the power plant for recording the temperature of feed water, flue gases, superheated steam, etc.

AUTOMATIC TAPE CUTTING MACHINE.

THE machine here illustrated has been designed for cutting India-rubber tapes for golf balls, and elastic washers, and also for cutting other materials of a similar nature to rubber. The illustration shows a machine complete with countershaft ready for fixing. The material to be cut is wrapped upon a mandril fixed between the centers of the fast and loose headstock, and is only limited in length of sheet to be cut by the diameter that the rest will permit when coiled on the mandril.

The operation of the machine is as follows: The mandril is first put into the machine with the rubber wound upon it. The set collars on the automatic stop arrangement are adjusted so as to stop the tool at the end of the mandril, and the machine is put into operation by a countershaft. The small clutch on the cam shaft is put into gear by a small handle at the right of the machine. When the tool advances to the set depth of cut, being pressed forward by the cam, it then immediately springs back out of contact with the rubber, and the rest with the tool travels forward



along the bed through the action of the crank and hutching motion at the right hand of the machine. As soon as the set amount of travel is completed, the hutching pawl recedes due to the action of the crank, and while this is taking place, the cutter again advances and withdraws as before, after which the travel is again repeated, and so on until the whole length of the rubber on the mandril is cut into the necessary strips or tapes. The machine is complete with splash guard to prevent the water which is used for lubricating the tool when cutting, from being thrown about the works; the cutter holder is arranged to carry the end of a small hose pipe bringing the water to the cutter at a pressure. When the cutter has arrived at the end of the mandril, the rest can be readily brought to its first position by a handle fixed upon the screw in the center of the bed at the right hand, care being taken that the hutching pawl is liberated from contact when bringing the carriage back; also that the direction of revolution of the mandril when the small clutch is in gear operating cam shaft must also be the same, this direction being indicated on every machine made. Made by David Bridge & Co., Castleton, Manchester, England.

INTERNATIONAL TRADE IN RUBBER GOODS.

I.—THE UNITED STATES.

THE exports of manufactures of India rubber from the United States, after having long remained at an unimportant figure, have been increasing steadily in value for the past five years. The figures are officially reported as follows, for fiscal years ending June 30:

YEARS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber	TOTAL.
1901-02	\$ 934,146	\$1,046,315	\$1,781,941	\$3,462,402
1902-03	819,985	1,056,491	2,299,875	4,176,351
1903-04	879,470	1,086,364	2,469,750	4,435,590
1904-05	994,100	1,214,342	2,572,375	4,780,817
1905-06	1,221,150	1,505,082	2,966,144	5,692,385

Going back twenty years, the official figures make this showing of values of rubber goods exported:

GOODS.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
Boots and shoes.	\$ 27,622	\$ 36,774	\$ 57,047	\$ 89,216	\$ 74,947
All other.....	483,004	532,422	577,999	596,649	589,357
Total.....	\$510,716	\$569,295	\$635,046	\$685,156	\$664,304

It may be noted here that in the early days of the industry the exports from the United States, especially of rubber footwear, developed to what was then an important extent to the value of \$1,409,007 in a single year (in 1854-55). The ready sale which these goods met abroad led American capitalists to establish such factories as Hutchinson's, in France, and the North British Rubber Co., in Scotland, with the effect of at once checking the American export trade. Then the civil war came on, followed by a period of great internal development during which there was no surplus of manufactures for export. The foreign trade in rubber goods, therefore, may be said to be of recent growth.

The manufacture of rubber footwear having first been developed successfully in America, and on a larger scale than elsewhere, such goods have always figured prominently in rubber exports from here. Before their manufacture was begun in Europe more than 1,000,000 pairs were exported from the United States in a single year. The number declined later to a few thousand pairs annually. During the past six years the figures have been:

1900-01.	1901-02.	1902-03.	1903-04.	1904-05.	1905-06
1,469,100	2,594,688	2,317,491	2,310,808	2,390,539	2,693,670

Nearly 70 per cent. of the footwear goes to Europe. The largest amount is taken by Great Britain, but of this a good share is distributed over the Continent. Germany, France, Belgium, and Turkey are large buyers, but every European country is represented. Outside of Canada, North America is almost a negligible factor. South America takes 1 per cent. of the whole export. Japan and Australia complete the list of important buyers.

The marked increase in recent years of the exports of rubber footwear has been due to concentrated and systematic efforts on the part of the manufacturing interests. Similar efforts are now being inaugurated with regard to other lines of American rubber products, with the probability that equally marked results will be shown. The fact that the individual consumer of rubber goods, as a rule, is a small purchaser, and that such goods are made in such great variety, has always interfered with the development of a for-

eign market by the method pursued in respect of goods delivered in large lots, or the sale of a single article for which a large demand was possible to be created.

For belting, packing, and hose, Great Britain and Germany are the best European customers; in North America, Mexico, Canada, and Cuba; in Asia, Japan; Australia and British Africa also take important amounts. The exports of these goods for two years have been as follows:

To—	1899-1900	1904-05.
Europe.....	\$163,101	\$164,311
North America	216,053	441,079
South America	32,058	72,892
Asia.....	37,889	57,483
Oceania.....	76,148	114,146
Africa.....	16,599	141,189
Total.....	\$541,839	\$994,199

The customs records give no indication of what is embraced under the heading "All Other Goods" in rubber. Such exports have increased in value more rapidly than the other classes referred to, and they reach a wider distribution. They go to every country on the globe, but most largely to rubber manufacturing countries, doubtless for the reason that in those countries the use of rubber is more general, and there the best market for rubber goods exists.

The total export of rubber goods is not embraced in the official figures, however. Clothes wringers, carpet sweepers, and an immense number of other things, all including more or less rubber, are shipped abroad without being included as rubber goods. Tires that go out on motor cars or other vehicles do not go as rubber goods exports. And this condition is likely to exist as long as customs records are kept.

The exports of rubber goods from the United States do not embrace shipments to our non-contiguous territories, which were, until recently, foreign territory. Such shipments during the past fiscal year were as follows:

To—	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Alaska.....	\$ 72,653	\$164,223	\$ 29,825	\$266,701
Hawaii.....	49,159	19,511	43,944	94,614
Porto Rico.....	16,439	994	32,844	50,265
Total.....	\$120,242	\$175,728	\$106,613	\$411,583

* * *

The imports of rubber goods into the United States of late have increased in value more rapidly than the exports. The official returns for the last five fiscal years are as follows:

YEARS.	India-Rubber.	Gutta-Percha.	Total.
1901-02.....	\$ 119,756	\$127,780	\$ 577,536
1902-03.....	665,672	225,198	891,170
1903-04.....	821,562	335,479	1,157,042
1904-05.....	1,389,664	117,735	1,506,799
1905-06.....	1,092,413	298,172	2,290,585

The first recorded imports of such goods was in 1854-55, when their value amounted to \$43,720. During the civil war the figures in one year reached a trifle over \$1,000,000, after which there was a steady decline to the "low water mark," \$170,814, in 1879. Since then, until recently, the yearly average has been about \$350,000, until recently. What goods figure in the increased imports the customs returns also fail to specify.

The share of the different countries in the increase of imports of India-rubber goods in ten years, up to 1904-05, is shown in the table below. Similar details are not yet available for the succeeding year, during which imports increased still further by 43 per cent. The table follows:

FROM—	1904-05.	1905-06.
Austria-Hungary	\$ 275	\$ 37,505
Belgium	5	20,634
France	91,060	332,250
Germany	117,850	27,452
Italy	3,348	1,286
Netherlands	5	5,420
Russia .....	.....	32,990
Switzerland	243	1,579
United Kingdom	101,057	115,298
Canada	1,800	3,001
Other countries	247	1,340
Total	\$315,002	\$1,389,004

America always has afforded a market for German hard rubber goods, and now a certain amount arrives from Austria. Rubber toys likewise come from Germany, in increasing amounts, together with balls, balloons, and the like. And automobile tires must figure in the increase to a considerable extent, from both Germany and France. When automobiles are imported complete the rubber parts are not taken into account at the custom house, so that only tires imported in a detached state figure as "rubber goods." If it should prove true that a large percentage of the increased imports from France and Germany consists of tires, the importation of such goods is much greater than the home manufacturers have been willing to concede.

* * *

RUBBER GOODS TRADE OF CANADA.

EXPORTS of Canadian manufactures of India-rubber for the last three fiscal years (ending June 30) were in value as follows:

TO—	1904.	1905.	1906.
Great Britain	\$ 41,043	\$ 46,825	\$ 92,254
United States	80,730	88,572	227,071
Other countries	78,758	117,550	152,815
Total	\$200,531	\$252,956	\$472,140

IMPORTS into Canada of goods under the same heading were in value as follows:

FROM—	1904.	1905.	1906.
Great Britain	\$361,666	\$174,281	\$ 99,224
United States	600,756	616,435	649,981
Other countries	25,740	26,071	31,600
Total	\$994,162	\$816,787	\$771,805

A PROCESS for making hard rubber articles patented by William R. Sine (United States, No. 831,998) consists in taking a fabric saturated or filled with a rubber compound, subjecting this fabric to a hardening or stiffening treatment to permanently harden it, applying the center layer of rubber compound to the stiffened fabric, placing the permanently hardened or stiffened fabric with the layer thereon within a suitable mold, and vulcanizing.

A PATENT granted to Carl A. R. Steenstrup (United States, No. 830,260) relates to a process of devulcanizing India-rubber having fabric insertions, which consists in supplying an aqueous alkaline solution and hydrofluoric acid to the mass of divided India-rubber in a closed vessel, heating the mass and stirring the same for a protracted period required to devulcanize the rubber and destroy the fabric insertion, and afterward washing and drying the material.

MEXICO'S GUAYULE RUBBER FACTORIES.

REGARDING published rumors that a corner of guayule rubber interests in Mexico by two rival companies, Mr. W. H. Stayton, a vice president of the Continental Rubber Co., said recently, according to the *Mexican Herald*, that at least his company was making no such effort. With so many interests at work as are now engaged in producing and marketing guayule rubber, said Mr. Stayton, there is little chance of any one concern cornering the product.

The Continental Rubber Co., said he, are developing their holdings of guayule in Mexico, and their three factories, at Torreon, Acampo, and Saltillo, are being run at full capacity. In addition to this, he mentioned a dozen other factories at work, all independent of the Continental company.

They were the Anglo-Mexicano company, operating a factory at Jimuleo and two at Saltillo; the Madero interests, having a factory at Parcas and two others under construction; the Coahuila Mining and Smelting Co., with a factory at Viesca; the National Rubber Co., at Torreon; and the following, also each with a factory at Torreon: the McGregors, the Clement Jacques interests, and the Torreon Rubber Co. Besides, the Valdespine interests are building a factory at Torreon.

In regard to reports of a new organization to compete with the companies already in the field, Mr. Stayton thought that there would be difficulty in securing guayule lands, since all such lands near transportation facilities are now controlled by one or other of the companies mentioned. Even now the Continental company are having guayule shrubs conveyed, to one of their factories, for more than 100 miles by burros. As the burro must also carry food and water for several days' supply, and his total load does not exceed 200 pounds, it will be seen that conveyance of shrubs by this means is slow and expensive.

The Continental company are using four patents—those of Garza, Delafond, Lawrence, and Hunicke.

SOME WANTS OF THE TRADE.

[349] A PIANO manufacturing company write: "We are in the market for a large amount of rubber tubing, elbows, matting, etc. Please send us THE INDIA RUBBER WORLD."

[350] A German firm write: "We should be very grateful for the addresses of manufacturers of spiral gas tubing."

[351] A subscriber writes: "Did you ever hear of a preparation called 'Adhesia'? I am told it is made in Boston."

[352] An advertiser says: "I have an enquiry for a source of supply for wheels for roller skates made out of material called Hematite which my friend explains is somewhat similar to hard rubber. I would be obliged if you would kindly inform me where these may be purchased."

[353] A well known rubber company wishes to be informed where they could secure samples and prices on fruit jar ring cartons.

[354] "Can you let us know who manufactures machines for testing the tensile strength of rubber," writes one of our advertisers.

RUSSIA'S exports of rubber footwear to Germany in 1905 amounted in value to 2,131,000 rubles [= \$1,107,765] and in 1904 to 1,991,000 rubles [= \$1,025,365].

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

REFERENCES to the high prices which rubber manufacturers have to pay at the present time for rubber scrap have been commented on by our London contemporary, and Mr. Ernest E. Buckleton has suggested that the matter should come up for consideration at a special meeting of manufacturers. I don't know whether or not this latter has had any response, but it appears to be the feeling in the waste and reclaimed rubber trade that no good could be effected by any such meeting. The present high prices result from the ordinary laws of supply and demand, and any artificial regulation of prices seems doomed to failure. Though the selling prices have certainly gone up during the last year or two, the dealers are emphatic that their profits have decreased. Owing to the largely increased number of collectors, and the competition amongst dealers, much higher prices are now paid by the latter than was formerly the case. It is understood that one prominent dealer suggested to the principal buyers that they should undertake to buy all their requirements of scrap rubber from him for a certain period of time, and he would cause prices to come down 20 or 30 per cent. all right. Nothing seems to have come of this proposition, and anyhow it does not seem to have caused any alarm among the other dealers. One of the latter said that in the event he would at once raise his price to collectors 10 per cent. and so cause a diversion in the course of the traffic. Again it is pointed out that England is not by any means the only available market, as indeed higher prices can generally be obtained on the Continent, where there is an increasing demand.

It was suggested to me very forcibly the other day that some one ought to start an agitation with a view of getting a law passed with the object of ensuring that nothing but pure rubber should be used in such cases as the accessories of feeding bottles. It was also suggested that the large infantile mortality in our large towns was at least accelerated by the cherubs sucking in the decomposition products of substitute. There may not be much in all this as far as the death rate is actually concerned, but I certainly am of opinion that such rubber goods should be made only of pure sheet rubber, and not of the lower priced qualities which contain substitute. It is notorious that medical men nowadays complain of the quality of surgical rubber goods, saying that they are not as reliable as they used to be. The manufacturers no doubt will reply that the doctors will buy in the cheapest market. Still, the matter may easily prove a serious one, and as long as the goods are sold under the name of rubber, and nothing is said as to admixture of other bodies, I think that in the event of anything serious happening the manufacturer or dealer cannot expect to escape all consequences. It is suggested that second quality surgical rubbers should be made of a distinctive color, so that no confusion may arise in the mind of the buyer or user. This might not prove readily feasible, even did the suggestion meet with support, but the whole matter certainly seems to warrant consideration, and it may be taken for granted that old established British firms would welcome any publicity which would

show up the competition to which they have been subjected of late years by foreigners. The case is different from goods made of compounded rubber. With regard to the latter, more particularly of insulated cables, the suggestion that rubber goods should come under a law like the Food and Drugs act met with a good deal of decision. In such cases the publication of formulas would benefit the trade at the expense of the individual who has achieved success probably at great pains and expense. Where, however, the health of the public may be supposed to be in jeopardy owing to the use of inferior goods, then it would seem to be in the common weal to put such goods under some such supervision as is exercised over the dealers in food and drugs.

ALTHOUGH the management of this Manchester proofing works is now in the hands of a receiver, it must not be assumed that the business is in a parlous condition. Indeed, I have it on good authority that an examination of the books shows that the home business has been regularly conducted at a substantial profit, despite the very adverse condition which the proofing trade generally has experienced of late years. The difficulties in which the firm found itself involved seem to have been entirely due to the failure, or it would probably be more correct to say, the mismanagement, of the Canadian branch. This firm is not the only British one which has found the Canadian business turn out unprofitable after an encouraging start. No doubt a complexity of causes are at work in such cases, but I am informed on good authority that it is no use trying to do business direct with customers; the Canadian middleman is a power in the land and those who seek to do without him will court disaster. There may or may not be much in this, but my informant was emphatic in the opinion that there was plenty of good business to be done, if put through the hands of Canadian dealers.

I CANNOT say that I have yet purchased any of these substitutes for linen, but in holiday resorts this season I have been notified of their existence on several occasions, and have heard their praises sung by tourists who are not troubled with lack of means. With the athlete, reduction of baggage is a prominent desire, and the fact that one or two of these collars take the place of a dozen starched linen ones is looked upon as a decided advantage.

UNDER this title a paragraph has appeared in several newspapers relating to a monopoly obtained by a British firm in Abyssinia. From inquiries made at 56, Bloom street, Manchester, I am enabled to state that the concession granted by the emperor of Abyssinia to Mr. Hassib Ydlabi, of Hassim Ydlabi & Rehan, of Bloom street, has been taken over by a newly formed company called the Ethiopian Rainproof Monopoly Co., with a capital of £100,000. I am informed that it is only proposed to deal in rainproof goods, and that though the company is British in its origin, buying in the cheapest market will be a prominent feature in its trading routine. The monopoly is for 25 years. The climate of Abyssinia varies considerably according to locality. The country is by no means all of the sandy desert nature

THE PRICE OF RUBBER SCRAP.

SECOND QUALITY SURGICAL RUBBER.

B. COHEN & SONS.

RUBBER COLLARS.

MONOPOLY IN WATERPROOFS.

associated with North African regions: there are wooded districts where a heavy annual rainfall obtains. Now that railways are making their influence felt in the extension of commerce in the country, there is likely to be a good deal of competition between business firms of England, France, and Germany. It is a commonplace that the Ethiopian cannot change his skin, but there is no saying what an advanced education may not cause him to change in his attire, and it will be to the benefit of the new company to persuade him that he is incomplete without a rainproof coat.

MESSRS. ARCHIBALD CONSTABLE & CO., LIMITED, the well known London publishers, have in preparation a new series of technical works dealing with the various industries and manufactures. One of the volumes will be devoted to rubber and its manufacture. The name of the author doubtless will be announced shortly.

UNDER the name Macintosh Tyre Co., a company in close business connection with Charles Macintosh & Co., Limited,

but of distinct management, has been formed, NOTES. presumably to forward the interests of and to deal in the motor tire with which the rubber firm have been experimenting for some time. From those who have used this tyre I hear nothing but favorable reports, but the makers have been in no hurry to push the sale until the extended trials which they themselves initiated had satisfied them of its efficiency.—I understand that Mr. James E. Baxter and friends have rented one of the islands of the Orkney group this autumn, good mixed shooting being the principal attraction.

PETROLATUM IN RUBBER COMPOUNDING.

THE use of petrolatum or vaseline as a rubber compounding ingredient has become very general, especially in the mechanical goods and reclaimed rubber manufacture. It is one of the numerous products of petroleum or rock oil derived by distillation. These products are classed as follows:

- Light oils, including gasoline and naphtha.
- Illuminating oils, kerosene.
- Residuum or tar.

From the latter subdivision is separable, by further increase of heat, heavy lubricating and paraffin oils, among which are petrolatum or vaseline, and coke as a waste product.

Petrolatum is considered to be a mixture of paraffin and volatile oils. It is separated from the residuum of crude petroleum which has been subjected to the vacuum process of distillation in contradistinction to the "cracking" process by which some of the natural constituents are chemically broken up to form new bodies. The residuum being kept fluid by steam, the finely divided coke resulting from the distillation is allowed to settle out and the clear oil drawn off and filtered through bone charcoal contained in cylinders, in order to remove the color and odors contained in it. Sometimes the oil recovered from the residuum is treated with sulphuric acid and potassium bichromate for the removal of certain impurities before the filtration through bone charcoal. This is said to be the German process.

Petrolatum gains much of its value from its indifference to all chemical treatment, thus resembling paraffin very closely.

It is generally familiar as a dense product, pale yellow, translucent, slightly fluorescent, semi-solid melting at about 100° Fahr., and having a specific gravity of 0.850. Its chemically inert quality peculiarly adapts petrolatum to use in rubber compounding where a non-oxidizing lubricant and softener is needed to facilitate the manipulation of harsh or dry compounds, and which will not subsequently develop in the finished goods injurious or other inconvenient qualities. Simple softening of rubber any oil will accomplish, but for all around adaptability petrolatum excels all others.

For many years palm oil was considered to be the best oil for compounding purposes, because it is a vegetable oil and solid at ordinary temperatures. Vegetable oils were generally conceded to be the least injurious to rubber. The principal objection to palm oil in this connection is its tendency to oxidize and nothing with that quality is desirable as a compounding ingredient, since oxidation is fatal in its effects on rubber goods. Petrolatum is absolutely free from this objection and leaves nothing to be desired in its qualities as a lubricant. Ordinarily 2 or 2½ per cent. of petrolatum is sufficient in any compound where its presence is needed, although 5 or even 7 per cent. may be employed in special cases. Cheap goods containing petrolatum will withstand drying out or hardening with age, a similar effect being produced by the use of soft coal tar.

As regards the item of economy, petrolatum commends itself to the rubber manufacturer when considering the use of an oil ingredient in compounding. For all ordinary purposes, everything except perhaps the whitest goods, the dark filtered stock is entirely suitable and the price will be less than the light filtered stock.

The use of petrolatum and all other oils should be strictly under control and ordinary workmen never be permitted to have access to them, otherwise irregularities of compounding so numerous and complicated as to be past finding out, may result from their indiscriminate use for doctoring burnt stock and stock difficult to run on the machines.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of August, 1906, and for the first eight months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
August, 1906.....	\$136,709	\$173,812	\$ 290,586	\$ 601,107
January-July.....	663,536	615,154	1,803,512	3,082,202
Total.....	\$800,245	\$788,966	\$2,094,098	\$3,683,309
Total, 1905.....	755,988	767,775	1,918,481	3,442,244
Total, 1904.....	570,972	651,392	1,600,574	2,822,938
Total, 1903.....	568,797	507,897	1,655,396	2,732,090
Total, 1902.....	459,871	524,629	1,208,132	2,282,652

"RUBBER IS KING."—The rubber supply of the future will have to expand greatly in order to meet the demands of the motor vehicles, all of which have to roll on that elastic gum or quit business. "Rubber is king" may be a watchword one of these days, plucking the crown away from cotton, which wore it so proudly and so long.—*New York Tribune*.

NEW GOODS AND SPECIALTIES IN RUBBER.

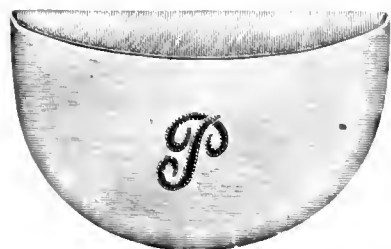
DR. DECKER'S FOUNTAIN SYRINGE.

A RADICAL departure from the general construction of syringe nozzles has been made in the self-retaining and non-plugable nozzles of Dr. Decker's invention. The number of openings makes possible most thorough flushing, and the canal through the center furnishes an exit for waste water. If, however, it is desirable for the water to be retained, the canal may be filled with non-absorbing cotton. It will be observed, by the illustration, that the openings are not confined to the large end of the nozzle, but, also, extend about the margin of the extended portion of the nozzle. As it is rotated an effective cleansing is obtained. The rectal nozzle has four openings (none on the end) so it is impossible to plug them. Hygeia Nursing Bottle Co., Buffalo, New York.



BUCKSKIN RUBBER LINED TOBACCO POUCH.

The manufacture of tobacco pouches has long formed an important item in the rubber trade in England, for every

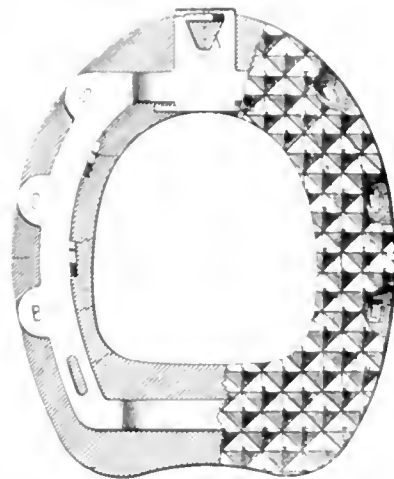


Britisher loves a pipe, and naturally welcomes a convenient and serviceable receptacle for his tobacco. Besides, there is a demand for attractive pouches, and there are many smokers to whom expense is no object. The cuts here-with relate to a splendid line of tobacco pouches, manufactured by a leading British firm. It is a buckskin rubber lined pouch. The covering may be of any kind of fine skins, antelope, seal, snake, lizard, or the like. Some of these pouches are very ornate, and can be had embellished with gold

plates, for initials or monograms. Charles Macintosh & Co., Limited, Manchester. A tobacco pouch recently brought out by another firm, also English, and called the "Diana," while of the same general type as shown in the illustrations, possesses some distinct features in construction. It can be opened wider than other pouches, enabling the pipe to be filled conveniently by dipping it into the tobacco, there being thus less liability to spilling. Besides, the flap closes automatically with the pouch, and retains the contents with absolute security.

AN ELASTIC TREAD HORSESHOE.

THE horseshoe illustrated here consists of an elastic tread section within which is located a skeleton frame of metal, conforming to the contour of the rubber part. The frame is provided with apertured offsets whereby when the tread section is cast on the frame the different parts will be firmly united, and with downwardly extending stop plates on the toe portion of the frame and between which the material of the elastic tread section is held. To add further to the comfort of the horse, the upper surface of the shoe may be covered with a cushion material, such as leather. The illustration relates to a bar shoe, though the invention is adaptable to other forms. It shows a portion of the elastic tread removed, to give an idea of the construction of the metal frame. United States patent No. 772,050, granted to F. D. Palmer and Alfred H. Isham.



GOODRICH SURGICAL BASINS.

ONE of the chief requisites of successful surgical operations lies in having recourse to every possible means whereby facility, convenience, and cleanliness are enhanced. Rubber surgical accessories have been more and more resorted to as meeting these requirements, until now the list is indeed a long one. For example, pus basins such as those shown in the illustration, have been tested and found most satisfactory to operators, nurses and patients. The foundation consists of a soft brass rim of an inch wide rubber covered. The body of the basin is made of pure strong gum. They can be shaped to conform to any surface and when pressed against or tied to the body fit so snugly that no fluid can get between the basin and the skin. They are made in 6 inch and 8 inch sizes, and they can be folded in compact little packages. The B. F. Goodrich Co., Akron, Ohio.



WATERPROOF AUTOMOBILE APPAREL.

A RUBBER proofed coat for automobilists' use that promises to become very popular is shown in the illustration. It



"MOTORISTS' PONCHO COAT.

is called a Poncho Coat and is designed for men's wear, on lines that are for convenience rather than style. Through the casing around the neck a ribbon is drawn, which serves to fasten the coat snugly and admits of no possible place of entry for the rain. The same firm (Saks & Co., New York), offer many other specialties in automobile apparel, for men and women, boys and girls. Something new is a waterproof coat for growing girls, designed for use for more than one season. It is described as a shirt coat, and is draped loosely from the shoulders without defined lines, so that it may be of service long after a closer fitting garment would be outgrown. The

THE GOLDITZ SELF RENEWABLE HEEL.

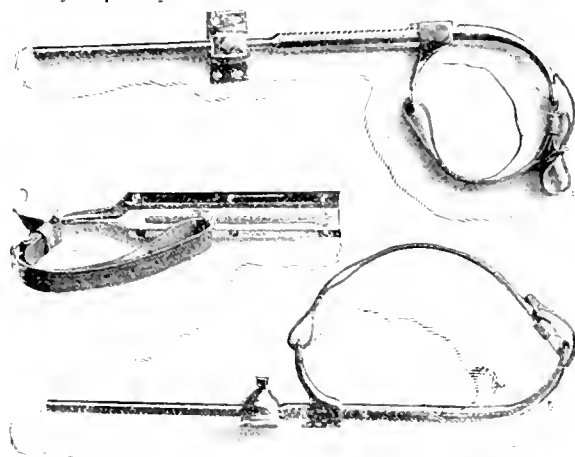
SINCE heels were first used on shoes, whatever the material, they have been stationary, but there has now been brought out a renewable and interchangeable heel. The heel plate is about $\frac{1}{8}$ of an inch deep and has turned-up flanges. It is countersunk to a corresponding depth in the heel of the shoe and is fastened thereto with five tacks. The side plate with punched-through flanges is secured to the detachable heel. It is fastened to the heel either with tacks (when half a heel made of leather is wanted), or with rivets (when a rubber heel is wanted). When a top plate only is wanted it is attached by means of projected edges which are clinched into the heel plate. H. M. Colditz, of Milwaukee, Wisconsin, is the inventor.

THE HASKELL-MATCH GOLF BALL.

IT is not so many years, measured by the average lifetime, since the "ancient and royal" game of golf was introduced into the United States. Yet the game wherever played has been revolutionized by the introduction of the rubber cored ball, due to the disposition of the American never to be satisfied with the established order of things, but to try to invent something new. The Haskell ball was the pioneer in this field, and it still holds a commanding position. Reference is made to it now for the reason that the manufacturers, alive to every opportunity for raising the standard of their product, have brought out their ball with a new finish, and are marketing it under the brand "Haskell-Match." [The B. F. Goodrich Co., Akron, Ohio.]

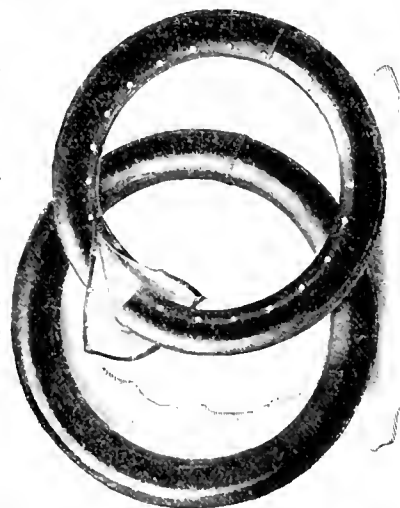
ALLEN TIRE HOLDERS AND CASES.

AN article for motorists' use that for convenience and adaptability, it will be hard to excel, is found in a self-adjusting tire holder now on the market. Instead of having a stationary capacity the holders illustrated herewith will carry



ALLEN'S TIRE HOLDER.

any size from $3\frac{1}{2}$ inch up to two 5-inch shoes. A little ratchet device furnishes the means whereby this extension is acquired. These holders are made of highly polished special bronze. The fact that the holders can be removed when not in use adds to the appearance of the car, and the removal can be effected by merely taking out the screws which hold it, requiring but a moment or two. That this does not detract



ALLEN'S TIRE COVER.

from the security of the attachment is a matter for consideration. The Tire Cases, also illustrated, are said to be absolutely dust, oil and water proof. They fit securely being fastened with ball and socket and are made in all colors of enameled duck. The cut is to fit each make and size of tire, [The Allen Bag and Specialty Co., No. 1931 Broadway, New York.]

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED SEPTEMBER 4, 1906.

- N**O 829,952. Syringe [Surgical]. W. M. Dean, Chicago.
 829,979. Hermetic closure for tumblers. W. A. Lotenz, Hartford, Conn.
 829,980. Hermetic closure for tumblers. *Same*.
 829,981. Hermetic closure for tumblers. *Same*.
 830,005. Vulcanizer. L. E. Rice, Cedar Falls, Iowa.
 830,133. Horseshoe. W. J. Connally, Atlanta, Ga.
 830,167. Fruit jar ring. F. C. Pelster, Omaha, Nebr.
 830,250. Cushion insole for shoes. C. H. Peeble, Chambersburg, Pa.
 830,260. Process for devulcanizing India-rubber. C. A. R. Steenstrup, assignor to Aktieselskabet Gummi-Regenerations Selskabet, System Resen Steenstrup, Copenhagen, Denmark.
 830,267. Vehicle tire. W. Westney, Scotland, Conn.
 830,403. Horseshoe. R. Barclay, Youngstown, Ohio.
 830,458. Boot or shoe heel. J. B. Sheehan, New York city.
 830,467. Non slipping tire. M. Vivian, Cheswick, London, England.

Trade Marks

537. E. G. Soltmann, New York city. The words PAR EXCELLENCE. For rubber erasers.
 8,841. Revere Rubber Co., Boston. The word SECURITY. For belting, hose, and machinery packings.

ISSUED SEPTEMBER 11, 1906.

- 830,488. Wheel tire [in sections]. N. Beckwith, Somerville, Mass.
 830,581. Inflated ball. C. R. Fleischman, Chicago.
 830,582. Inflated ball. *Same*.
 830,661. Pneumatic knee pad. E. G. Gresham, Dunedin, New Zealand.
 830,664. Storm top for vehicles. W. A. Hunter, Terre Haute, Ind.
 830,695. Process of and apparatus for manufacturing lined metallic hose. E. Witzemann, Pforzheim, Germany.
 830,858. Piston rod packing. A. L. Shaffer, Omaha, Nebr.
 830,873. Cushion tire for vehicle wheels. L. H. Barry, Durango, Mexico.
 830,885. Valve attachment for fountain pens. F. O. Conill, New York city.
 830,889. Atomizer. C. J. Davol, assignor to Davol Rubber Co., Providence, R. I.
 831,004. Inhaler. E. E. Jousset and A. D. Jousset, New York city.

Design

- 38,238. Rubber matting. A. J. Whisler, assignor to Goshen Rubber Works, Goshen, Ind. *Claim*.—Ornamental design for rubber matting.

Trade Marks

- 3,662. I. B. Kleinert Rubber Co., New York city. The words THE BEST WARRANTED KLEINERT. For dress shields.
 8,834. Revere Rubber Co., Boston. The word VIGILANT. For belting, hose, and machinery packings.
 8,835. Revere Rubber Co., Boston. The word PILOT. For belting, hose, and machinery packings.
 19,286. Dr. Pierre Chemical Co., Chicago, Ill. The word PHENO. For syringes.

ISSUED SEPTEMBER 18, 1906.

- 831,041. Process for purifying Chile gum, or other adhesive. S. A. Davis and F. V. Canning, New York city.
 831,099. Packing. C. Restein, Philadelphia.
 831,199. Combined eraser and brush. J. H. Ezmann, Jr., Brooklyn, N. Y.
 831,358. Hose coupling. J. T. Lally, Wilmington, Del.

Design

- 38,241. Rubber fabric. J. Hardman, Jr., Belleville, N. J., assignor to The International Automobile and Vehicle Tire Co. *Claim*.—Ornamental design for rubber fabric.

Trade Marks

- 8,836. Revere Rubber Co., Boston. The word COLUMBIA. For belting, hose, and machinery packings.
 8,837. *Same*. The word BURRO.
 8,838. *Same*. The word HARLEM.
 8,839. *Same*. The word EMPEROR.
 8,842. *Same*. The word ZENITH.
 8,843. *Same*. The word ULYSSES.
 8,844. *Same*. The words OLD HICKORY.
 8,845. *Same*. The word GINGO.
 [All the preceding for belting, hose, and machinery packing.]

ISSUED SEPTEMBER 25, 1906.

- 831,537. Elastic cheek loop. C. A. Cornell, assignor to Berkshire Specialty Co., Pittsfield, Mass.
 831,586. Rim for vehicle wheels. [For holding pneumatic tire.] F. A. Wilcox, Akron, Ohio.
 831,623. Inhaler. F. B. Murphy, Logansport, Ind.
 831,632. Means for removably attaching tires upon vehicle wheels. J. C. Schleicher, Mount Vernon, N. Y.
 831,831. Artificial bait. H. C. Clippinger, assignor to M. E. Metzger and D. W. Brown, of Akron, Ohio.
 831,891. Rescue buoy. J. C. Quarterman, Titusville, Fla.
 831,920. Artificial hand for playing chords. B. E. Amend, Portland, Ore.
 831,975. Horseshoe. C. D. Murphy, Kingston, Minn.
 831,998. Hard rubber articles. W. R. Sine, Williamsport, Pa.

Trade Mark

- 4,652. The Goodyear Tire and Rubber Co., Akron, Ohio. The word GOODY AR and a foot of mercury. For horseshoe pads, rubber tiling, and rubber heels and soles for boots and shoes.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, AUGUST 29, 1906.]

- *9,054 (1905). Method of attaching elastic tires to rims. C. Motz, Akron, Ohio.
 *9,055 (1905). Life saving appliances [consisting of a double walled sleeve, for wearing upon the arm, containing an inflated bag, and provided at the end with webbed gloves]. T. J. Hruby and T. J. Jirik, both in Chicago.
 9,072 (1905). Joint-making packing. P. Schou, Copenhagen, Denmark.
 9,109 (1905). Pneumatic tire. J. Bolton, London.
 9,206 (1905). Hose pipe for suction dredgers. J. Tanbe, Riga, Russia.
 9,507 (1905). Means for securing revolving rubber pads to heels of boots. J. Wilkinson and A. Wilkinson, Manchester.
 [ABSTRACTED FROM THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 1, 1906.]
 9,616 (1905). Sole and heel protector. J. Latham, Farnworth, Lancashire.
 9,678 (1905). Rubber sole with non slipping device. P. M. Justice, London. (Grieb Rubber Co., Trenton, New Jersey.)
 9,738 (1905). Means for securing rubber studs in soles and heels of boots so that they are watertight. A. Miles, Cardiff.
 *9,781 (1905). Fountain pen. O. E. Weidlich, Cincinnati, Ohio.
 9,801 (1905). Pneumatic tire [protected by a chrome leather cover]. K. C. Goodman, Reading.
 *9,886 (1905). Pneumatic tire. I. Tennant, Springfield, Ohio.
 9,920 (1905). Elastic tire. A. E. Evans, Newport, Shropshire.
 9,985 (1905). Pneumatic tire. [Device for preventing skidding consists of a metallic linked chain having hooked ends which take cross bars shaped flatter than the contour of the tire.] G. S. Sayner, Harrogate, Yorkshire.
 10,067 (1905). Apparatus for administering electricity for medicinal purposes. G. J. Macaura, Bradford, Yorkshire.
 10,077 (1905). Outer cover for pneumatic tires [composed of a

number of segmental pieces of leather sewn together in pairs and then sewn end to end]. L. Cox, Birmingham.

10,166 (1905). Fishing bait. L. A. Crossle, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 1, 1906.]

10,244 (1905). Overshoe for golfers. G. C. de Rinzy, Georgetown, Demerara, British Guiana.

10,393 (1905). Means for securing elastic tires to rims. S. Simpson, Exeter.

10,401 (1905). Bottle stopper. [Relates to a bottle for holding liquid required to be withdrawn drop by drop, the liquid being removed through a flexible rubber appliance attached to a rod fixed in the cork.] K. Zum Tobel, Ravensburg, Germany.

10,499 (1905). Pneumatic tire [secured to the rim by forcing the edges apart by the action of a wedging strip, which is tightened by a screw passing through the rim]. W. T. Smith, Bolton, Lancashire.

10,500 (1905). Means for securing metal treads to rubber tires by studs. *Same*.

10,613 (1905). Elastic tire. W. B. Hartridge, London.

10,662 (1905). Pads for curing headache by applying pressure to the temples. S. A. Blisey, Islington, London.

*10,673 (1905). Fountain pen. J. Blair, New York city.

*10,678 (1905). Resilient protector for elastic tires. [Consists of separated circumferential metal rings, and an outer circumferential metal tread ring, the whole sprung into position and retained without additional securing means.] E. Krebs, Albany, New York.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 1, 1906.]

*10,754 (1905). Vacuum cleaning apparatus. A. E. Moorhead, Oakland, Calif.

*10,778 (1905). Pneumatic tire [consisting of a series of resilient annular tubes arranged inside a tubular cover]. G. S. Squires, Boston, Massachusetts.

10,823 (1905). Tool for removing and replacing pneumatic tires. L. Mellor, Tideswell, via Buxton, Derbyshire.

10,836 (1905). Fountain pen. G. W. Hughes, Birmingham.

10,859 (1905). Golf ball [In order to diminish the spin given to a ball when it is sliced in driving, and to assist putting by causing a ball to come to rest quickly when it begins to slow down, the ball is formed with a central cavity partly filled with mercury. The ball consists of an elastic steel globe, enclosed in a casing of Gutta-percha.] R. P. Wilson, Westminster.

11,236 (1905). Elastic tire. [Segmental rubber tires fitted between transverse partitions on the rim.] A. F. Stevenson, Warrington, Lancashire.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

363,029 (Feb. 6, 1906). Rousseau & Hancourt. Vulcanized fiber

363,182 (Jan. 27). C. H. Scott. Oilcloth machine.

363,113 (Feb. 9). E. Lapisse. Pneumatic tire.

363,121 (Feb. 9). DeClosel. Spring wheel.

363,154 (Feb. 12). C. Burnett. Elastic tire.

363,178 (Jan. 24). Baron de Bourgoing. Spring wheel.

363,188 (Jan. 30). G. Lepoutre. Spring wheel.

363,225 (Feb. 12). Subra. Pneumatic tire.

363,338 (Feb. 16). Ripley & Sautler. Automatic antiskid.

363,144 (Feb. 12). H. Penher. Method of repairing waterproof goods.

363,291 (Feb. 14). F. C. Hood. Rubber washing machine.

363,339 (Feb. 16). B. Grätz. Rubber purifying process.

363,341 (Feb. 16). Same. Preparing rubber for vulcanization.

363,386 (Feb. 17). Hartridge. Leather tire.

363,402 (Feb. 19). J. Edmondson. Pneumatic tire.

363,576 (Feb. 23). Freeborn. Dentists' plate vulcanizer.

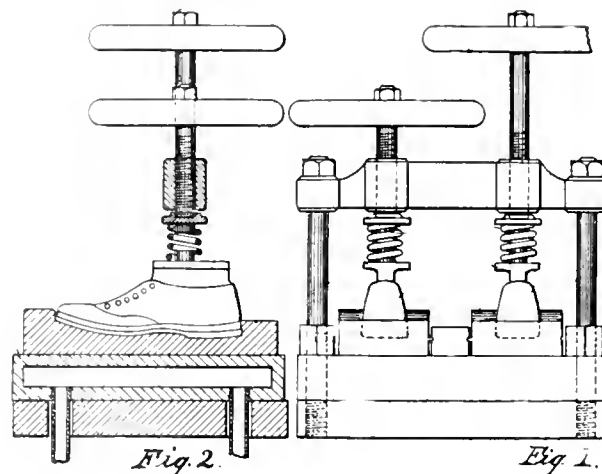
[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 5 cents each, postpaid.]

A CRITICAL review of the genus *Sapium*, and particularly of the rubber yielding species included in it, contributed by Dr. Jacques Huber, of the Pará Museum to the *Bulletin de l'Herbier Boissier* (Geneva), and a monograph of interest and value, has been reprinted separately in a brochure of 50 octavo pages.

PROCESS FOR SOLING CANVAS SHOES.

A NEW invention by Thomas Miller, Auburn, Rhode Island, relates to means for vulcanizing rubber soles to shoes, its object being to provide a simple apparatus whereby rubber soles, heels, and foxing may be molded on to canvas or other shoes, and secured permanently thereon by vulcanization of the rubber while under a great pressure. The practice in making these canvas shoes has been to form the rubber sole separate, cement it on to the rubber, and then place the shoe and sole in an oven and vulcanize them without the use of pressure. Not only are shoes thus constructed apt to pull apart, but they do not present the same finished appearance as when molded into exactly the required form under pressure.

The illustrations are as follows: Fig. 1—Side elevation



showing clamping press with two shoes in position to have soles vulcanized thereon; Fig. 2—Side elevation partly in section showing clamping device, steam chamber, and shoe in position in the mold.

Claim 7 of the patent specification reads: "In a device of the character described, a mold made in one piece adapted to form heel, sole, and foxing portion only of a shoe, a last over which a shoe may be formed, flexible means for applying pressure to said last, said last adapted to fit the mold and assist in the formation of the heel, sole and foxing portion therein, said mold being so formed as to closely fit the upper on the last at the foxing line thereof to cause a resistance when under pressure and insure the plastic material being forced into the pores of the upper and adhere to the same and means for applying heat to the material."

THIS item of history in connection with the trade occurs in an article on book collectors and book sales, in the *London Daily News*: "The late Mr. Edwin Truman was perhaps the oldest book collector in London when he died in April, 1905. As some will remember, he was dentist to the royal household for over half a century, and it was he who discovered that Gutta-percha can be purified in any quantity by mechanical means without injury to the material. Mr. Truman never paid large sums for books or prints, yet for a volume of seventeenth century plays which cost him 2s., £88 was realized on February 15." We have not found elsewhere a record of Mr. Truman's connection with the trade as stated.

THE LATE GEORGE F. HODGMAN.

IN the death of George F. Hodgman the trade suffers a double loss. Any branch of business which numbers among its leaders men of the high standard of character which his life exemplified, benefits distinctly from their influence. Besides, every rubber man who possessed the friendship of Mr. Hodgman—and they were many—will feel a real personal loss from his passing away.

Mr. Hodgman was of New England descent. His father, Daniel Hodgman, a native of New Hampshire, with an ancestry in that region of several generations, began business for himself at Roxbury, Mass., in early manhood, but finding it uncongenial, he removed to New York and made a new start in life. In 1838, at the age of 30 years, he opened a store at No. 27 Maiden lane in which rubber goods were embraced; in 1839 he was advertising mackintoshes, which he produced here almost as early as they were made in England; in 1840 he built a rubber factory at the foot of Twenty-sixth street, at the East river, which was operated until destroyed by fire in 1853. A new factory was erected in that year at Tuckahoe, N. Y., and later an additional factory at Mt. Vernon, both of which are still in operation. Daniel Hodgman was one of the early licensees under the patents of Goodyear, having allotted to him the right to make rubber door springs—an article which at one time had a great vogue. Mr. Hodgman manufactured many other articles of rubber, however, his faculty for invention enabling him to make them independent of the vulcanization patents. As early as 1839 he was awarded a silver medal by the American Institute for rubber clothing and life preservers, and the Hodgman factories engaged in the production of a great variety of articles, but from the beginning the name of Hodgman has been identified closely with the mackintosh manufacture.

Daniel Hodgman died at Tuckahoe in 1874, at the age of 66 years. His widow retained her interest in the factories until her death in 1885, when the sons, who had become identified with the business, had it incorporated as the Hodgman Rubber Co. The Maiden lane store above mentioned was retained by the Hodgmans for 41 years, and when the growth of their business made necessary larger facilities, further up town, it remained a rubber store, in other hands, for many years longer.

George F. Hodgman was born in New York city, in City Hall place, on December 20, 1844. He became associated with his father in business after leaving school, coming into its control after the father's death, and after the incorporation of the Hodgman Rubber Co. was its president. While but 61 years of age at his death, he lived to see great changes in the methods of manufacture of rubber goods and

of conducting the rubber business, to which he contributed not a little that was of value.

For a long while Mr. Hodgman was in the habit of going abroad for a vacation every year or so. He sailed for Europe this year on June 15, apparently in perfect health, accompanied by Mrs. Hodgman. During August heart trouble developed, and his death took place at Garlants Hotel, in London, on September 28. His younger son, S. Theodore Hodgman, learning of his father's serious condition, hastened to London, arriving five days before Mr. Hodgman's death. Funeral services were held on October 16, in New York, at the Madison Avenue Methodist Episcopal church, of which Mr. Hodgman had been a member and secretary of the board of trustees since its organization, 25 years ago. The services were conducted by Bishop Andrews and by the



GEORGE F. HODGMAN.

pastor of the church, the Rev. Dr. Wallace MacMullen. The services were simple, as befitted one who had a profound appreciation of the beautiful. In consonance, therefore, with his life was the music, the altar banked with flowers, tributes from friends far and near, the great hushed audience that gathered for a last farewell, and the touching word picture of the life as his pastor and friend knew it. The attendance included many members of the rubber trade. Among the honorary pallbearers representing the trade were the Hon. L. D. Apsley, Benjamin F. Taft, Arthur W. Clapp, and E. E. Huber. The interment was at Kensico cemetery.

In 1866 Mr. Hodgman married Miss Louise Barker, daughter of the late Stephen Barker, who survives him, as well as two sons, George B. and S. Theodore Hodgman, who are respectively treasurer and secretary of

the Hodgman Rubber Co. Mr. Hodgman was a member of the Union League Club, the New York Chamber of Commerce, the New England Society, and the Knollwood Golf Club. He was president of the Rubber Sundries Manufacturers' Association and a charter member of the Rubber Manufacturers' Mutual Insurance Co., of Boston, and latterly a member of its finance committee. Mr. Hodgman's earlier life was spent in New York city, until 1853, when he went with his father to Tuckahoe, N. Y. In 1874 he returned to the city, where he afterward resided.

The profound sense of personal bereavement that comes to the writer through the passing of Mr. Hodgman is shared by the trade throughout the land. A typical New Yorker, prompt, aggressive, capable, intolerant of injustice, quick to respond to the appeal of the needy, cheerful, companionable, with deep religious convictions, he was a rare spirit, and honored the trade with which his name was so prominently associated. May his memory live long in the hearts of those fortunate enough to call him friend.

THE RUBBER SHOW AT PERADENIYA.

THE Ceylon Rubber Exhibition of 1906, held at Peradeniya, under government auspices September 13-27, appears from all reports to have been a highly successful affair. Planned in the first instance by a planters' association, as a local show, to last for a day or so, earlier in the year, the idea commended itself so strongly to the government that it was taken in hand enthusiastically, its scope broadened, and a two weeks' exhibition was the result.

The exhibition was held in buildings constructed especially for the purpose, in the Peradeniya gardens, at the public expense. Some 200 men were employed on the buildings, which were completed in good time for the opening of the exhibition. The buildings were of the native Kandyan type of architecture and decoration. The entrance to the main building was through a portico shaped somewhat like a huge pagoda, and led to a hexagon 50 feet wide, from which three wings branched off, each 60 x 30 feet. The stands for exhibits in these wings were arranged on either side of the room, with a third row down the center. The attempt was made to render the buildings attractive inside and outside. For instance, the roof of the hexagonal central building was ceiled with paintings illustrating Kandyan history and legend. There were a number of smaller buildings—one for instance assigned to the governor; one used as a refreshment building with the Queen's Hotel, Limited, as caterers; a music stand, and separate special buildings for exhibits in other interests than rubber, including a pavilion for displaying the geological resources of Ceylon. Special sheds were provided for the machinery exhibits, including the steam engines installed for supplying power.

The exhibition was opened by the governor of Ceylon, Sir Henry A. Blake, G. C. M. G., in his official capacity, attended by a military escort. He was, besides, president of the Exhibition. The exhibition committee was made up of the Hon. Mr. J. P. Lewis (chairman) and Mr. E. B. Denham (secretary), of the Ceylon civil service; the Hon. Mr. E. Rosling; Messrs. T. C. Huxley, Edgar Turner, and James Ryan; Dr. J. C. Willis, director botanic gardens; Mr. M. Kelway Bamber, government chemist; and Mr. Herbert Wright, controller experiment station.

Prizes were offered for the best samples of Pará in "biscuit," "sheet," "crepe," "worm," and "scrap"; *Castilloa* and Ceará in different forms; and, "rambong" (*Ficus*) rubber—first, for Ceylon only, and secondly, open to all exhibitors. Also, the best collection of rubber other than those above named, and for the best commercial sample of rubber in the show. Samples not to be less than 5 pounds. The official list of prizes for rubber exhibits included 24 gold medals, 25 silver medals, 3 silver cups, and a silver bowl worth £15 15s. [= \$79.65]. Besides, special prizes were offered, by planters' associations for example. One was for the best Pará rubber grown above an elevation of 3000 feet.

Additional prizes (including 25 gold medals) were offered for instruments for tapping rubber trees—Pará, *Castilloa*, Ceará, and "rambong"; for assisting the flow of latex from trees; for storing latex; best methods of coagulation; for drying rubber; for obtaining rubber from twigs, leaves, etc.;

best methods of packing rubber for shipment; best rubber washing machine; models of curing house, and so on.

The Kandy District Planters' Association offered a prize for the best implement for and method of tapping Ceará rubber. The Kalutara association offered a prize for a model rubber curing house.

The rubber exhibits were judged by three experts sent out from London for the purpose: Charles Devitt, of Lewis & Peat; Spencer Brett, of Gow, Wilson & Stanton; and C. K. Smithett, of Wilson, Smithett & Co.

PRIZES AWARDED FOR RUBBER.

CEYLON ONLY.

Pará Rubber Biscuits (46 competitors).—Gold medal, Duckwari estate; silver medal, Katugastota; extra silver medal, Duckwari (second sample); honorable mention, Arapolakande. Silver cup to superintendent of Duckwari.

Pará Biscuits, Smoked.—Gold medal, Arapolakande.

Pará Rubber Sheet (23 competitors).—Gold medal, Syston; silver, Kondesalle; honorable mention, Delahena. Silver cup to superintendent of Syston.

Pará Rubber Crêpe or Lace (4 competitors).—Gold medal, Culloden; silver, Heatherley.

Pará Rubber Worm, Flake, Block, or Other Form (7 competitors).—Gold medal, Gikiyanakande; silver, Culloden.

Castilloa Rubber Biscuits (1 exhibit).—No award.

Castilloa Rubber Sheets.—No exhibits.

Castilloa Rubber in Any Other Form excluding Scrap (1 exhibit).—Silver medal, Culloden.

Ceará Rubber Biscuits (12 competitors).—Gold medal, Rangbodde; silver, North Matale. Silver cup, superintendent of Rangbodde.

Ceará Rubber Sheet (4 competitors).—Gold medal, Kondesalle.

Ceará Rubber in Other Forms (2 exhibits).—No award.

CEYLON AND ABROAD.

(* Denotes Awards to Straits and Malay States Exhibitors.)

Pará Rubber Biscuits (8 competitors).—Gold medal, Duckwari; silver medal, Arapolakande; honorable mention, Kanagastota.

Pará Rubber Sheet (13 competitors).—Gold medal, Syston; silver, Kondesalle; extra silver medal, Kuala Kangsa Gardens*; honorable mention, Kamuning.*

Pará Rubber Crêpe or Lace (10 competitors).—Gold medal, Culloden; silver, Patahng.*

Pará Rubber in Other Forms.—Gold medal, Lanadron (for block rubber)*; silver, Gikiyanakande; honorable mention, Culloden.

Pará Rubber Scrap (32 competitors).—Washed: Silver medal, Vallambrosa*; honorable mention, Jebong*. Handmade: Gold medal, Heatherley; silver, Kepitigalla; honorable mention, Kanagastota.

Rambong Rubber (6 competitors).—Gold medal, Golden Hope*; silver, Sungei Rengum.*

Best Collection of Rubber (other than mentioned already).—Gold medal, Arapolakande; silver, Gikiyanakande.

Best Commercial Sample of Rubber in the Show.—Gold medal, Lanadron* (for block rubber); silver, Duckwari; additional silver medal, Kondesalle; honorable mention, Arapolakande and Rangbodde. Silver bowl, superintendent of Lanadron*.

The first honor was taken by Lanadron estate, Johore, for rubber prepared in a new form—blocks. Ordinary crepe rubber is put through a vacuum dryer and pressed in a screw press into blocks a foot square and weighing 25 pounds. This is the estate of Mr. F. Pears, of the Pears' soap company.

The very extensive collection of machinery for handling crude rubber, and implements for tapping trees attracted much attention. Liberal prizes were offered in this department, as for exhibits of crude rubber, but further attention to them in this journal must be deferred to another issue.

TIRES AT THE VANDERBILT CUP RACE.

SEVENTEEN motor cars were run in the third annual contest for the Vanderbilt Cup, near New York, on the morning of October 6—five each entered from the United States, France, and Italy, and two from Germany. The course was 20.7 miles in length and ten rounds were made, giving a total distance of 207.1 miles. The race came to an end when five cars had covered this distance, the order of finishing being as follows:

First, Wagner of France, Darracq car.
Second, Lancia of Italy, Fiat car.
Third, Duray of France, De Dietrich car.
Fourth, Clement of France, Clement car.
Fifth, Jenatton of Germany, Mercedes car.

The positions of the American drivers were eighth, tenth, thirteenth, fourteenth and sixteenth. One American, Le Blon, covered nine laps and another, Tracy, eight laps. Wagner's time was 4 hours 50 minutes 10½ seconds, or an average of 61.43 miles per hour. Lancia's time was slower by only about 3 minutes. Duray came in 10 seconds later.

The automobiles entered, as a rule, made a showing creditable to the makers. But two serious breaks occurred among all the machines on the course, and some developed no troubles whatever—except in the matter of tires, and here none escaped trouble. It is only a few years since, in every important race, a large percentage of the machines were "down and out" before the winner crossed the tape. The inference is that a further advance has been made toward perfection in manufacture, and in this respect the American machines are admitted to have shown great improvement.

Of the foreign cars, ten were equipped with Michelin and two (German) with Continental tires, and all had removable rims. The five American cars had Diamond tires; the Thomas car had removable rims on the rear wheels, the Christie had four rims, and the other three were without this latest innovation. For the American team eleven tire stations were located around the course, while the foreigners carried spare tires (with rims) in the race.

Rain fell on the day before the race, leaving the road soft and conducive to skidding, which fact is held accountable in large part for the tire troubles experienced. For this reason leather anti-skid tires were used by most of the contestants, which is believed to have lessened the speed, besides which many of the metal studded bands peeled off the tires, making replacements necessary. At least six of the cars had bad tire troubles on the first round, seven cars had them on the second, and so on. Le Blon had to replace all four tires on the first round, losing 20 minutes thereby. Tracy lost 50 minutes all told with his tires. In the case of removable rims, tires were replaced much more promptly—in three or four minutes. And one French driver, who, as a measure of precaution, removed four seemingly good tires and put on new ones, required only four minutes for the work. Wagner, the winner, changed four rims.

The lessons of the race appear to be: (1) Cars are now made that, apart from the tires, can be depended upon to run from start to finish without failure. (2) Each car should carry its spare tires, instead of depending upon repair stations, which are not always accessible when trouble occurs. (3) Where speed is an object, removable rims are essential, on account of the time they save in making replacements.

(4) However good American tires may be, the American made anti skid treads used at the Cup race failed to make a good showing.

It should be said, in justice to the American contingent, that the fastest time over the course was made by Tracy, in a Locomobile, with Diamond tires (without skid treads). He covered one lap in 26 minutes 21 seconds, or at the rate of 67.66 miles per hour.

SALE OF CRUDE RUBBER BY ANALYSIS.

ONE of the judges appointed in England for the Ceylon rubber exhibition was Mr. Spencer Brett, of Gow, Wilson & Stanton, Limited, rubber brokers of London. Interviewed by *The Times of Ceylon*, he said:

"I have been going very interestedly into the scientific aspects of rubber. I have a laboratory in the office and I got hold of quite the best man in London that I knew of, who has been going very fully into the question of the analysis of rubber. My firm thought it an extremely important branch of the business, and I have taken it up with the idea of its being useful to planters in regard to preparation. I have also been over some of the biggest mills of manufacturers, and I am quite of opinion that, sooner or later, analysis will enter much more largely into the sale of rubber. There is no doubt that the prices paid for crude rubber depend to a great extent on the contents of it, and, practically speaking, I think it is impossible always to determine what the contents are except by analysis. Of course there are indications, in certain cases, as to the presence of oils and resins. But that is exceptional. As a rule, you can't from the outward appearance of the sample accurately gauge the proportion of the different contents."

NEW TRADE PUBLICATIONS.

EUREKA FIRE HOSE CO. (New York) lately have issued some attractive booklets in relation to what they term "the most valuable article in a fire department." Two which are especially interesting are "Fire Hose—A Study" [7¼" × 8¼", 16 pages] and "Hose Facts" [4¼" × 6", 10 pages]. Both are well illustrated.

WESTERN RUBBER CO. (Goshen, Indiana) have brought out a catalogue of Mechanical Rubber Goods, in which prominence is given to their line of pump valves, a department to which they have given special attention for some years. [3¼" × 6", 12 pages.]

THE CANTON RUBBER CO. (Canton, Ohio), in their Catalogue D, describe an extensive line of fine Seamless Rubber Goods, Druggists' Sundries, and Molded Rubber Goods. [6" × 6", 31 pages.]

ALSO RECEIVED.

THE MITZEL RUBBER CO., Carleton, Ohio. Net Price List of Water Bottles and Syringe Bags. 16 pages.

THE ALLEN BAG AND SPECIALTY CO., New York. Allen's Specialties for the Motor Car [including Tire Covers]. 8 pages.

HYGEIA NURSING BOTTLE CO., Buffalo, New York. Dr. Decker's Syringe Nozzles. 5 pages.

O. C. PIKE, Akron, Ohio. Net Price List of Rubber Specialties. 1 pages.

THE ADAMS & FORD CO., Cleveland, Ohio. Everstick Invisible Rubber Foot Safety. 12 pages.

THE FRICTION TAPE INDUSTRY.

STATISTICS from reliable sources, though incomplete, indicate great activity in the manufacture of that class of rubber coated cottons which are designated as "friction" tape.

One well known house which makes a specialty of these goods reports orders for 12,000 pounds in one morning's mail, and an average monthly output of 50,000 pounds. One consumer uses 1400 pounds daily and the largest electrical manufacturing companies place contracts for 50 to 100 ton lots, cut to size, special coated.

Forty inch, 56 - 60, sheetings are commonly used for the standard commercial grades. Each pound of sheeting receives from 2 to 4 pounds of rubber and other compounds. These goods are formed into $\frac{1}{2}$ pound rolls of varying widths and sold in constantly increasing quantities to the street railways, telephone companies, and electrical equipment contractors for making insulating joints. The United States government is a buyer in from 500 to 2000 pound lots under specifications of a most rigid character.

Most of the large cable companies make their own tapes, probably more from a desire to obtain a trustworthy product than from motives of economy, and theirs is a very large consumption of line sheetings and drills. These are coated with high grade rubber compounds of extra light specific gravity, as the cable people estimate their cost by square measure instead of weight.

Probably 50 tons of tape is made up into very small parcels annually for the bicycle sundry trade, sold at prices ranging from 14 to 20 cents per pound, representing so large an amount of labor as compared to material that it has lately ceased to attract competition at the lower prices.

A good deal of tape was formerly exported to France, Germany, and Austria, but our French and German friends have imported American tape makers and the great bulk of the tape there consumed is now made on that side of the water with a protective duty against us averaging 10 cents per pound. England is still a fair field for the American tape maker, and good sales are continually made there. A large portion of these latter go to the smaller European countries, India, Africa, South America, and Australia, via London and Liverpool.

A conservative estimate of the daily output of the American tape factories (aside from that made and consumed by the cable plants) is 10,000 pounds per day.

THE COTTON DUCK SITUATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There are some features in connection with the cotton duck situation, as it affects the rubber industry, which merits the serious consideration of the manufacturers in this branch, with a view to the possibility of bringing about some improvement. The price of cotton duck, on account of the great amount consumed in rubber factories, is of practically as much importance as the price of raw rubber, and this is something to which every manufacturer gives constant thought.

The terms on which rubber men now buy cotton duck are cash at ten days. But, if shipped from the South, it may not arrive for 30 or even 60 days, so that the consumer who

buys for cash pays long in advance—something which is not true in regard to any other raw material used in the industry. Besides, the seller does not guarantee quality, and if the buyer of first grade duck finds that "seconds" have been substituted, he is without redress.

Duck is held at too high a price, considering the price of raw cotton. Six cents a yard is enough to cover manufacturing cost and profits. At this rate, with cotton at 10 cents a pound, duck should not sell above 17 cents a yard.

The trouble is that the cotton duck industry is practically controlled by a trust. There is but one source of supply for the American consumer. That source controls the distribution of the product, and has the power to discriminate against the small and in favor of the large consumer. If a new mill starts in the South the trust is soon found to control the agency for the sale of its production.

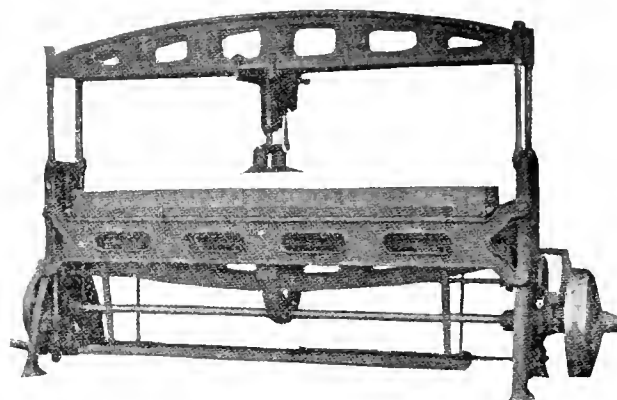
For all of which reasons, Mr. Editor, I am in favor of reducing the duty on imported duck, to enable the rubber trade to supply its wants in England or some other country until the home cotton trade becomes more disposed to give us a "square deal."

AN AMERICAN.

Providence, Rhode Island, October 15 1906.

ELECTRIC DIEING-OUT MACHINE.

THE accompanying illustration relates to the new Parsons electric dieing-out machine. The use of dieing-out machines is very extensive in rubber factories, especially in the making of boots and shoes, and it is desirable that the utmost facility be afforded for ease of operation, and economical working. This machine is equipped with a travel-



ing magnetic die holder, carrying a die of any weight from 1 to 100 pounds, over any part of the block, with the slightest pressure of the hand. It is always ready to lift or let go of the die by the simple movement of a switch. No danger to the operator is involved, as he does not handle the die while it is in operation. [Henry Parsons & Son, Marlboro, Massachusetts.]

THE sport of roller skating has again become so general that if all the skate rollers should be rubber tired—either pneumatic or hard rubber—it would make an appreciable increase in the demand for rubber. The elastic material is also used, on some skates, in the shape of cushions between the trucks and foot plate, to give greater comfort to the skater. It is small things like this, the aggregate of which is large, that cause the constant increase in the demand for rubber.

THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

THE Crescent Belting and Packing Co. and the Insulated Wire and Cable Co., of which Quartermaster General C. Edward Murray is general manager, have just completed a three-story brick addition, 60 by 75 feet. It is substantially constructed and has been equipped with the most modern machinery for the manufacture of insulated wire. The company has also just completed another addition of brick, one story high, 60 by 22 feet, to be used as a tinning shop for the insulated wire department. The first named addition will give the company a main building about 300 feet long and three stories high throughout. Two large wings connect with this and there are other minor buildings. A spur siding now connects the buildings directly with the main line of the New York division of the Pennsylvania railroad.

The Crescent Belting and Packing Co. is just sixteen years old and General Murray tells your correspondent that he is proud of the child of his early commercial experience. Commencing with a modest factory in 1890, the concern has grown steadily to its present commanding position among the rubber works of the city. At the beginning mechanical rubber goods only were manufactured. Then the insulated wire department was added and the Crescent Insulated Wire and Cable Co. organized as subsidiary to the other company. The present officers are John J. Miller, president; E. T. Phillips, vice president; General Murray, treasurer and manager.

Following the litigation involving the Trenton Rubber Reclaiming Works, in which Samuel Baron, a member of the company, applied for the appointment of a receiver, and in which the decision was against Baron, the latter has organized a new company for rubber reclaiming, which was incorporated in Trenton October 18. The new concern is called the Trenton Gutta-Percha and Rubber Separating Co. and is capitalized at \$100,000. The incorporators are Samuel Baron, Manfred Naar, and Edgar L. Kerns. The company has elected Baron president, Naar secretary, and Kerns treasurer. Naar is a lawyer and justice of the peace, and Kerns conducts a large bottling establishment. The company has secured a building at the foot of Perrine avenue, Trenton, along the tracks of the Pennsylvania railroad where manufacturing will be begun as soon as the machinery is installed. Baron claims to have a secret process for separating scrap rubber.

The Lazerne Rubber Co. are just completing a brick addition to their plant at a cost of \$5,000. The company began business about one year ago and are manufacturing hard rubber goods.

The damage done by the recent fire at the plant of the Dyson Rubber Co., on Paul avenue, is being repaired, and the works will soon be in operation again.

The Home Rubber Co. are having a great run at present on two lines of packing of which they make a specialty. These are the "N. B. O." black sheet packing, for steam and oil purposes, and the "O. I. M." high and low pressure packing.

The Trenton Rubber Manufacturing Co. have become quite a factor in the automobile inner tube business and are turning out a fine high grade tube.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TWO companies have been incorporated lately by a firm of Akron attorneys, under titles which indicate that they are to be interested in rubber, but thus far the promoters are not disposed to make public any information regarding their objects. First was announced the Panama Crude Rubber Co., which was incorporated with a merely nominal capital, which has since been increased to \$150,000. It is common report that the purpose of this company is to acquire control of rubber plantations in Mexico and Central America, and that options on a number of plantations have already been secured. The other company referred to bears the name The Independent Tire and Rubber Co., concerning which it is rumored that their intention is to utilize the products of the plantations controlled by the Panama Crude Rubber Co., and that ultimately the two companies may be brought under one control. The second company named, it is reported, will erect a factory either in Akron or at Youngstown, Ohio. The incorporators of the two companies, under the laws of Ohio, are George G. Allen, H. E. Andress, F. E. Whittemore, F. H. Waters, and E. A. Oviatt.

The B. F. Goodrich Co. have practically completed a new concrete six story building, and it is announced that another building of the same type is to be started at once and completed before the beginning of winter.

It is stated that, since the Vanderbilt Cup race, the Diamond Rubber Co. have booked orders for automobile tires to the amount of more than \$1,000,000. Most of these orders are from automobile manufacturers, many of whom arrange for their year's supply at this season.

Mr. H. C. Corson, formerly vice president of The B. F. Goodrich Co., and still a shareholder in that company, has been making a visit to Akron. During the past five years he has been spending his summers at his home in Nova Scotia and his winters in Europe.

The plant hitherto occupied by the Faultless Rubber Co., in Akron, has been purchased by the E. A. Pfeuger Co., manufacturers of fishing tackle, hardware, and hotel specialties.

The Faultless Rubber Co. have been busy of late arranging for homes in Ashland for 50 or more families of their employees who will go from Akron to that place, on account of the concentration of the company's business at Ashland.

RUBBER TREE SEEDS.—The well known Ceylon seedsmen, Messrs. J. P. William & Brothers, at Heneratgoda, issue new editions of their circulars: No. 30—*Hevea Brasiliensis*; No. 31—*Manihot glaziovii*; and No. 32—*Castilloa elastica*. Prices are given of seeds and stumps, and notes on recent success in shipping to distant points. They have supplied seeds of *Hevea*, for example, to the United States government for use in Hawaii.

GERMANY WANTS CHEWING GUM.—The bureau of manufactures of the United States department of commerce and labor announces: "A German confectioner would like to hear from American manufacturers of chewing gum, with a view to importing same, there being quite a demand for this article in Germany every year from tourists and residents."

NEWS OF THE AMERICAN RUBBER TRADE.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors on October 4 declared a dividend of 2 per cent. upon the First preferred stock (including all the preferred outstanding), for the quarter beginning July 1, 1906, and a dividend of 1½ per cent. upon the Second preferred stock for the same quarter, from the net earnings of the company. The net earnings for the first six months of the fiscal year (September partially estimated) are \$2,130,000, which includes dividends amounting to \$413,040.82 received upon stock of the Rubber Goods Manufacturing Co. in this company's treasury. The dividends were payable October 31, to stockholders of record October 15. No action was taken in regard to a dividend on the common stock, although the financial public seems to have expected such a dividend.

RUBBER CEMENT FACTORY IN ST. LOUIS.

THE St. Louis Rubber Cement Co. have taken possession of and are now occupying the fireproof building at the corner of Main and Spruce streets, St. Louis, erected for their use. The firm started in a small way several years ago, making a specialty of supplying the St. Louis shoe factory trade with their product, and their business has now grown to good proportions. The rubber cement used locally was formerly obtained wholly from the East.

INSULATED WIRE WORKS FOR DETROIT.

THE Detroit Insulated Wire Co. have been incorporated under the laws of Michigan, with an authorized capital at present of \$100,000. The president is Mr. E. E. Keller, of Pittsburgh, Pa. The vice president is Mr. J. H. Hunter, formerly of the National Cable and Wire Co., and also of Pittsburgh. Mr. Arthur Hartwell, some time sales manager of the Sterling Varnish Co., and later general manager of the Sterling Varnish Co., has been elected secretary and treasurer. The company have acquired six acres of land on the line of the Pere Marquette railroad, on which they are putting up a three story building of concrete and brick construction, to be devoted entirely to the manufacture of rubber covered wire. When the machinery, which is all new, has been installed, the capacity of the plant will be about 500,000 feet per day. The company hope to be in operation by the middle of November.

MR. HOWLETT INCORPORATES.

THE Rochester Rubber Co. (Rochester, N. Y.) have been incorporated under the laws of New York, with \$25,000 capital. Incorporators and directors: Frank C. Howlett and J. H. Glisman, of Syracuse; Charles W. Baines, New York city. Mr. Howlett is president and treasurer of the company, as he is also of the Syracuse Rubber Co., the incorporation of which was reported last month. The two companies will conduct a general rubber business, as Mr. Howlett has done hitherto. There will be no rubber business under the name of F. C. Howlett in the future.

MR. KOHMESCHER RETIRES.

THE partnership which had existed for 20 years between J. H. Kohmescher and Eugene C. Schaefer, under the style of J. H. Kohmescher & Co., in the Cincinnati retail rubber trade, ended on September 29, by the withdrawal of Mr.

Kohmescher. The business will be continued at the same location by The Schaefer Rubber Co. Mr. Kohmescher entered the service of the late firm, Bart & Hiecox, the pioneers of the India-rubber trade in Cincinnati, February 2, 1864, and remained with them until 1880, when the partnership just closed was formed. They opened "The Little Rubber Store" at No. 161 Main street, under the motto "The Best of Rubber Goods Are Not Any Too Good." In November, 1891, the rubber store was moved to No. 120 East Fourth street, where the business has been carried on until now. William E. Schaefer was admitted to the firm 10 years ago.

DEATH OF THE HON. RATCLIFFE HICKS.

THE body of the late Hon. Ratcliffe Hicks, of Connecticut, who died at Interlaken, Switzerland, on September 10 last, arrived at New York on the *Auguste Victoria*, on October 6. Funeral services were held on October 9 at Tolland, Conn., his native town, and where his summer home has been for years.

Ratcliffe Hicks was born October 3, 1843, being descended from Thomas Hicks, who came from England in 1644 and settled at Scituate, Mass., founding a family many members of which have won distinction. The father of Ratcliffe Hicks was a merchant in Providence, R. I., and later in New York city. The son was graduated from Brown University in the class of 1864. Being admitted to the bar, he won success in his profession, while his interest in public matters led to his election for a number of terms to the Connecticut legislature, of which he proved an able and influential member. He was also at various times city attorney of Meriden and attorney for the county of New Haven.

In 1882 Mr. Hicks became connected with the rubber business. He was a son in law of the late Jared H. Canfield, who had, a few years ago established at Bridgeport, Conn., the business which, after his death, in 1883, was incorporated as the Canfield Rubber Co. Mr. Hicks was elected president of the corporation, holding this position until within the present year, when he disposed of his holdings in the business. During this period he saw the company grow from small beginnings until its sales amounted to \$1,000,000 or more per year, thus demonstrating his capacity as a business man no less than in other relations in life.

Mr. Hicks did much for his native town of Tolland. It is the site of the Ratcliffe Hicks Industrial and Educational School, toward the endowment of which he contributed liberally. Mr. Hicks is survived by an unmarried daughter.

END OF A SUIT IN THE TIRE FIELD.

THE amicable settlement is reported of the suits of the Pope Manufacturing Co. against the Rubber Goods Manufacturing Co., in the New York supreme court, the first of which was instituted in October, 1903. Under date of November 8, 1899, the American Bicycle Co. sold to the Rubber Goods Manufacturing Co. three rubber tire plants—the Hartford, the Indianapolis, and the Peoria—the consideration involving an agreement by the American Bicycle Co. to purchase at least 90 per cent of its requirements in tires

from the Rubber Goods company, for five years, while the latter agreed to pay an annual rebate of \$200,000 on such business for the same period. The basis of the first suit referred to above was the \$200,000 rebate alleged to have been due on November 1, 1902, and not paid. The American Bicycle Co. meanwhile had failed, and been succeeded by the Pope Manufacturing Co., and the Rubber Goods company were advised by counsel that the contract with the American Bicycle Co. had ceased to be valid, and was not transferable. The matter was allowed to go to the courts, therefore, and a year later a second suit was brought, for the rebate claimed for the year ending November 1, 1903.

RUBBER SHOE SEASON EXTENDED.

THE announcement is made by the United States Rubber Co. that the opening of next season will be deferred until March 1, instead of occurring on January 1, as was expected. The announcement has been well received in the trade, particularly as this postponement carries with it the extension of the guarantee given in the company's contracts so as to cover goods in the dealers' hands up to February 28. It was natural, when the guarantee terminated on December 31, that dealers should be a little careful about carrying too large a stock over into the new year, with the uncertainty as to what the new year would disclose in the matter of prices. Now that the guarantee carries until the end of February, which is very close to the end of the rubber season, dealers can lay in their stocks with a better feeling of confidence.

STAFF OF MORGAN & WRIGHT.

THE corporation Morgan & Wright, whose new rubber factory at Detroit, Michigan, is now in operation in the various departments, is incorporated in Michigan with \$1,800,000 capital. The directors are: Charles H. Dale, Lester Leland, John J. Watson, Jr., Charles A. Hunter, Charles J. Butler, Arthur I. Philp, and Frank W. Eddy. The officers are: Charles J. Butler, president and general manager; A. I. Philp, secretary; Nicholas B. Feltes, treasurer; John Carlson, assistant treasurer; Herbert Bowen, counsel. G. A. Burnham is factory manager; A. A. Templeton, superintendent; William McMahon, assistant superintendent; G. A. Reeves, general foreman mechanical departments; T. H. Henderson, general foreman mill, calender, and compound rooms; William Shearer, master mechanic; F. O. Smith, purchasing agent. The selling department is in charge of A. I. Philp. The men in charge of the manufacturing departments are: Charles Measure, automobile tires; H. L. McLaren, vehicle tires; M. E. Mason, bicycle tires and accessories; W. M. Gunlock, horseshoe pads and rubber heels; D. J. Norbury, mechanical goods; G. W. Seiberling, hard rubber specialties.

HIGHER PRICES FOR MECHANICALS.

A NUMBER of leading manufacturers of mechanical rubber goods have withdrawn all prices, notifying their patrons that new prices will be furnished on application. The reason given is the continued increase in the price of materials. One circular states that cotton duck has advanced 10 per cent. within two years past, and 20 per cent. within the past year, and other materials in like proportion. The Peerless Rubber Manufacturing Co. announce that their advance in prices will be as small as is consistent with the cost of materials, "ranging from 5 to 8 per cent."

MR. FARRINGTON MAKES A CHANGE

MR. CHARLES E. FARRINGTON has severed his connection



C. E. FARRINGTON.

with the Massachusetts Chemical Co. and the Walpole Rubber Works, and opened an office in Boston as consulting engineer, his specialty being transmission problems and chemical engineering as it relates to the rubber manufacture. He will also devote special attention to rubber reclaiming problems. Mr. Farrington has had unusual experience and opportunities for the study of rubber factory methods and electrical plants, both in this country and in Europe.

He has also contributed very many articles to scientific reviews which have attracted much attention. As an inventor several of his insulating compounds have been most successful.

TRADE NEWS NOTES.

MR. HARRY GREENLEE has accepted a position as general sales agent of the American Belting Co. (Youngstown, Ohio). He was formerly in the cost department of The Republic Rubber Co., of the city named.

MR. Charles Hardin has accepted a position as New York manager for The Republic Rubber Co., taking the place of Mr. Willis A. Darling who is now in business for himself, selling mechanical rubber goods.

MR. Emil Grossman has retired from the position of general manager of the Continental Caoutchouc Co., the American branch of the Continental company of Germany, to devote his time to the affairs of the Motor Car Equipment Co., the National Sales Corporation, and the Royal Battery Co., all of New York, and of all of which he is president.

A representative of the J. P. Devine Co. (Buffalo, New York) started recently for the Guayule rubber producing district of Mexico, in the interest of the vacuum drying apparatus marketed by that company. Elsewhere in this issue will be found references to the successful employment of this system on rubber plantations in the Far East.

O. C. Pike, No. 128 West South street, Akron, Ohio, is conducting a business in jobbing druggists' sundries and other rubber specialties, his stock being derived from leading manufacturers.

CHARLES NIEDNER (Malden, Massachusetts) has applied for a building permit for a three story brick addition to his fire hose factory, to be ready by January 1, to be 60 x 60 feet.

The British Insulated and Helsby Cables Co., Limited, have declared an interim dividend on the ordinary shares at the rate of 8 per cent. for the half year ended June 30, the rate being the same as last year.

W. T. Glover & Co., Limited, have issued £80,000 in 5 per cent. second mortgage debenture stock, at 95 per cent. being part of an authorized issue of £100,000.

=The National India Rubber Co. (Bristol, R. I.) will make quite an extensive exhibit of its carriage cloths, including ducks and drills, both bright and dull finish, and leather and pebble grain embossing, at the Convention of the National Carriage Builders' Association, which will be held in Atlanta, Ga., October 23-27.

=The Boston Automobile Dealers' Association, Inc., announce their fifth annual automobile and power boat show, Mechanics Building and Horticultural Hall, Boston, March 9-16 (inclusive) 1907. Application for space should be addressed to Chester I. Campbell, general manager, No. 5 Park square, Boston.

=The yacht *Arrow*, one of the fastest in the world, built for Charles R. Flint and now owned by E. F. Whitney, was the subject of newspaper mention in New York early in the month. Her propeller becoming entangled in some floating lumber in the East river, the yacht was slightly damaged and came near sinking.

=In a New Jersey court a verdict for \$1000 was rendered in the suit of Daniel Cane, who sued for damages for the loss of two fingers while at work in the factory of the Voorhees Rubber Manufacturing Co.

=The Bristol Co. (Waterbury, Connecticut), manufacturers of Bristol recording thermometers, have opened a branch office in Chicago, at No. 753 Monadnock building, to enable them to supply more promptly their growing trade in the West.

=Mr. E. S. Benson, manager of the New York branch of the Hartford Rubber Co., has resigned to go to Indianapolis, to join the staff of J. D. Anderson, president of the G & J Tire Co. He has been succeeded by E. S. Roe, lately of the Hartford company's uptown branch in New York.

=The Healy Leather Tire Co., No. 88 Gold street, New York, have established a selling branch at No. 1906 Broadway, in order to be nearer the automobile district.

=All Cadillac cars for 1907 will be equipped with the Hartford universal rim, for either Hartford clincher or Dunlop tires.

=The Aladdin Rubber Co. have recently added extensively to the capacity of their rubber reclaiming plant at Barberton, Ohio. The company reclaim by a non acid process which has produced the most satisfactory results. The company's offices are located now in the Hamilton building, Akron, Ohio.

=Hastings Hose Reel Co. (Hastings, Michigan) are making a very satisfactory line of hose reels, varying in size and price to meet any demand.

=The Republic Rubber Co., (Youngstown, Ohio), are reported recently to have received a large order from the Panama canal commission for air brake hose and other rubber supplies for use on the railway crossing the isthmus.

=Mr. W. J. Oby, formerly general manager of the Canton Rubber Co. (Canton, Ohio), is now practicing law in Cleveland. His successor is Mr. W. J. Ellis, for many years with The B. F. Goodrich Co.

=Mr. M. Traub, of Behr & Co., Singapore, was a recent caller at the office of THE INDIA RUBBER WORLD. He expressed himself as believing that Singapore would shortly become a great center for crude rubber, and his errand to the United States is to get in touch with rubber manufacturers and know their wants in the way of crude rubber, in order that he may supply them direct.

=Mr. Fred D. Zeigler has succeeded W. C. Peters as manager of the Goshen Rubber Works (Goshen, Indiana). The other officers now are H. C. Zeigler, president; H. R. Brackin, vice president; C. W. Kinnan, secretary; Jerry Hayes, treasurer.

=The regular quarterly dividend of 2 per cent. of the Hood Rubber Co. was payable on October 1.

=A dividend of 2 per cent. on the preferred stock of the Manufactured Rubber Co. was payable on October 10.

=The Durham Rubber Co., Limited (Bowmanville, Ontario) have opened a branch for the sale of their mechanical rubber goods at Winnipeg, with Mr. B. C. Clarke as manager. The present address is No. 45 Notre Dame avenue, East.

=The Dowsell Manufacturing Co., Limited (Hamilton, Ontario), makers of wringer rolls, will erect a warehouse at a cost of \$8000.

Mr. William J. Gorham, president of the Gorham Rubber Co. (San Francisco) sailed from New York on October 9 for a visit to Europe.

=The Rubber and Celluloid Harness Trimming Co. (Newark, New Jersey) are interested in a rubber plantation in Honduras from which they are receiving more or less cultivated rubber. They find that the Central rubber from that region is excellent for their rubber specialties.

=The specialty factory of the A. W. Faber Co., at Newark, New Jersey, has lately received substantial enlargement through the construction of a large three story brick building. This company, by the way, not only manufacture pencil tips, erasers, and rubber specialties for the great Faber business in the United States, but they also make all of the rubber goods for the German, French, and English Faber factories, and in addition supply the Egyptian government and the government of India with the special rubber bands made under government specifications and stamped with the broad arrow.

=The P. F. U. Rubber Co. (Durango, Colorado) are still at work extracting rubber and carrying on extensive experiments, which will go to show whether the "rabbit weed" can be successfully cultivated. The first rubber that they got out cost them considerably over \$1 a pound and they have reduced that cost now to 80 cents. The rubber samples which they show are valued roughly at the rate of \$1 a pound.

=The Dunlop Tire and Rubber Goods Co. (Toronto), who advertise extensively throughout Canada, have adopted in all their advertising matter the "simplified spelling" to which so much attention has been attracted lately by President Roosevelt's advocacy of it.

=Mr. Paul Lacroix, of Paris, France, a personal representative of the Michelins, is now visiting the United States.

The Michelin Products Selling Co., Inc. (New York), have opened a pneumatic tire agency at No. 3804 Olive street, St. Louis, Mr. H. L. Doyle being the manager.

=Mr. E. D. Winans has resigned his position as general manager of the Michelin Products Selling Co., Inc. (Nos. 31-33 West Thirty-first street, New York). Mr. Winans is in ill health and will go to California for a rest. Mr. Edward W. Elverson, treasurer of the Michelin Products company, has taken control of its affairs as general manager, succeeding Mr. Winans.

=Mr. Charles Motz, of Akron, Ohio, is at work on a new solid tire, which he expects shortly to put on the market.

=The Elastro Manufacturing Co., of Hartford, September 15, under Connecticut laws; Capital, \$50,000. To manufacture a resilient compound, to serve as a substitute for rubber. Incorporators: H. B. Philbrick, Charles H. Cooley, Edward S. Young, L. S. Lewis, and C. H. Cooley, Jr., all of Hartford.

=The Los Soldados Rubber Co., which, by the way, is a rubber plantation that is a close corporation, and situated in the state of Vera Cruz, Mexico, have recently been using one of Christy's coagulating machines, and find that it does excellent work. The only difficulty in operating it that has been found is not due to the machine itself but to the lack of a gasoline motor, the present type being "mozo" power, which, however, is all right for experimental work.

=By the time this item is in type Mr. William J. Gorham, of the Gorham Rubber Co., San Francisco, will have recovered from his Atlantic seasickness and have landed on the shores of Germany. His errand over there is the collection of some \$35,000 worth of insurance which a certain German insurance company refuses to pay. The consensus of opinion in the rubber trade is that Mr. Gorham will not only get the insurance money, but anything else that he really wants in Germany.

=Michelin Products Selling Co., Inc. (New York), invited a number of their friends in the trade to visit their tent near the grand stand at the Vanderbilt Cup races. They had arranged for 100 cots for use during the preceding night, and refreshments were served before the race started on Saturday morning.

=The Pará Recovery Co. inform THE INDIA RUBBER WORLD that a very large American rubber manufacturer has just placed an order with them for 500 tons of their Mexican Yucatan rubber, shipments to be made ten tons per week.

=An early touch of winter was experienced over a wide area on October 11, snow falling at Buffalo and other points in upper New York State, at Cleveland, Ohio, and at various places in Pennsylvania and Michigan. Heavy snow was general throughout western Ontario. This does not prove, of course, that there is to be more snow than usual this winter, but it encouraged the rubber shoe dealers none the less.

=Electric Rubber Manufacturing Co. (Rutherford, New Jersey) are marketing what they term the "M. T." triple strength inner tubes for automobile tires, which take their name from a special compounding ingredient, "M. T."

=The merit of "Atinoid" for use in the manufacture of high grade acid tubing of rubber is emphasized by the makers, The Rubber Chemical Co., Limited, of Birmingham, England.

=Bids were opened on October 19 for supplying the New York fire department with an unusually large quantity of hose. The Manhattan Rubber Manufacturing Co. were the successful bidders for supplying 50,000 feet of 2½ inch hose—one of the largest orders ever placed by the department. The Continental Rubber Works (Erie, Pa.) were the successful bidders on 2500 feet 1½ inch hose; 10,000 feet 3 inch hose; and 1100 feet 3½ inch hose.

=The Schaefer Rubber Co. was incorporated September 26, 1906, under Ohio laws; capital, \$50,000. Incorporators: Eugene and William E. Schaefer, Jacob H. Yost, and W. T. Porter. To continue the business of J. H. Kohmescher & Co., retail rubber goods, Cincinnati.

=The Niagara Rubber Co., at Lockport, N. Y., was incorporated October 23, 1906, under New York laws; capital, \$250,000. Directors: H. Walters, A. M. Cheney, and J. B. Ross, of Jamestown, N. Y.

=The four related wholesale and retail rubber stores organized and managed by Mr. Isaac Crocker continue to do a flourishing business—the Lowell Rubber Co., at Lowell, Mass.; Lawrence Rubber Co., Lawrence, Mass.; Crocker Rubber Co., Brockton, Mass.; and Hope Rubber Co., Providence, R. I.

=The Canadian Consolidated Rubber Co., of which Mayor Geo. W. Stephens is president, and D. Lorne McGibbon manager, has purchased the Maple Leaf Rubber Co., of Port Valhousie, Ontario, for \$350,000.00.

=Dr. Durand Woodman, technical chemist, of New York, has returned from a vacation spent in sailing and fishing and incidentally in a study of the water supply of Cooperstown, N. Y., with reference to its future possibilities of contamination.

=Mr. H. J. Koehler, of the automobile trade in Newark, N. J., reports that the "Buick" motor car entered by his house at the Atlantic City races was run to and from that city (about 150 miles) and all through the races without the tires requiring any attention. They were the Goodyear Quick Detachable tires.

=National Metal Back Rubber Tiling Co., was incorporated October 2, 1906, under Maine laws, with \$500,000 capital authorized. The incorporators are M. W. Baldwin, of Portland, Me. (president and clerk), C. E. Eaton (treasurer), J. J. Herman. Mr. Baldwin is the manager of the Corporation Trust Co., from which it is inferred that the first board is composed of "dummy" directors.

=Messrs. V. Lespinas, G. Lespinas, and G. Ogier, of the important tire factory of Michelin et Cie. (Clermont Ferrand), are now on a visit to the United States, for the purpose of studying the tire industry and trade here.

=Dow Tire Co. was incorporated October 22, 1906, under New York laws, with \$1,500,000 capital stated, and headquarters at Phoenicia, Ulster county, N. Y. Directors: Sidney B. Perry, James Gillin, Jr., and William L. Morris, all of New York city.

=Mr. G. C. Mandleberg of the firm of J. Mandleberg & Co., Limited (Manchester, England), was a recent visitor to the United States and also to Canada, where the company have a large factory.

=The American Chiclé Co., in addition to the regular monthly dividend of 1 per cent. on the common stock, payable on November 20, will disburse on that date an extra dividend of 1 per cent.

=The Rubber Products Co. filed articles of incorporation October 11, 1906, under Ohio laws, with \$100,000 capital authorized. Incorporators: Harvey Musser, George C. Kohler, Arthur S. Mottinger, William H. Gillie, and J. A. Kohler, of Akron and Barberton, Ohio.

=Mr. Joseph H. Gilbert who for some years has been connected in an official capacity with the Firestone Tire and Rubber Co. (Akron, Ohio) has been selected to succeed Mr. Emil Grossman, as general and sales manager of the Continental Caoutchouc Co., the American agency for Continental tires.

=The Beacon Falls Rubber Shoe Co. have recently made an important addition to their boot ticket.

=Mr. Willis A. Darling, formerly with the Republic Rubber Co., has connected himself with the Continental Rubber Works (Erie, Pa.), as manager of the mechanical goods department for New York.

=The plant formerly owned by the Madeira Rubber Co. (Hyde Park, Mass.) has been purchased by the New England Rubber Manufacturing Co., who will continue to make the lines manufactured by the old company and add molded goods.

=A reclaiming plant is to be erected in connection with the Elkhart Rubber Works (Elkhart, Indiana), to be operated, it is reported, by a new company to be organized subsidiary to the Elkhart Rubber Works.

=Mr. J. Stewart Smith, who for three years has been in charge of the metropolitan district for the Continental Caoutchouc Co. has become Eastern sales manager for the Electric Rubber Co. (Rutherford, N. J.) makers of the Panther tires, and will shortly open New York headquarters and salesrooms.

=The Trenton Gutta-Percha and Rubber Separating Co. filed articles of incorporation in New Jersey October 18, 1906, signed by Manfred Naar, Edgar L. Kerns, and Samuel Baron. Capital, \$100,000; registered office, No. 17 East State street, Trenton.

=Victor Auto Tire Repair Co., of Passaic, N. J., was incorporated October 18, 1906; capital, \$50,000. Incorporators: Victor E. Butler, Allan M. Chalmers, Cornelius Post, and James Maitland.

=The thirty-fourth annual meeting of the Carriage Builders' National Association of the United States, held at Atlanta, Georgia, on October 23-25, had in connection with it, as usual, an exhibition of carriage materials and parts. This was held at the Piedmont Fair grounds, and embraced a number of exhibits from the rubber trade, embracing carriage and automobile tires, carriage cloth, rubber mats and other like accessories.

=Notice has been given at the factories of the Woonsocket Rubber Co. and the National India Rubber Co. of a reduction of the working day from 10 to 9 hours, without reduction of pay. Also at the factories of the Boston Rubber Shoe Co. and the American Rubber Co. The question of a like reduction at the other shoe factories of the United States Rubber Co. has been under consideration.

=The annual meeting of the shareholders of the Pennsylvania Rubber Co. was held at Jeannette, Pa., on October 17, when Herbert DuPuy, F. A. Wilcox, and H. Wilfred DuPuy were re-elected directors. They thereupon elected the following officers: Herbert DuPuy, president; F. A. Wilcox, vice president; H. Wilfred DuPuy, treasurer and general manager; George W. Shiveley, secretary; Wilmer Dunbar, general superintendent. The report showed that the company had enjoyed a very prosperous year, and orders and contract already booked give promise of still greater business during the coming season.

=The Goodyear Rubber Insulating Company, with offices and works in Jersey City, filed a certificate of dissolution of the corporation in the office of the Secretary of State at Trenton, October 29. The company was incorporated January 3, 1898, with a capital of \$5000, divided into 100 shares of a par value of \$50 each. The incorporators were Albert C. Wall, of South Orange, N. J., Frederick S. Minott, of Mt. Kisco, N. Y., and Theodore Blake, of New Haven, Conn. Minott was president, and Blake secretary and treasurer.

"NEW ENGLAND'S BIGGEST RUBBER STORE."

ON the 15th of the month past, The Enterprise Rubber Co. took possession of their fine, new quarters at No. 110 Federal street, Boston. The store when completed will be just what President Barker of the company characterizes it in his announcements, "The Biggest Rubber Store in New England", while in arrangement and furnishing, it is the ambition of



the head of the company to make it the best. All told, the store has some 26,000 square feet of floor space. This is divided into a fine, light basement, where mechanical rubber goods will be stored and where a large general repair department is to be placed; the first floor, where are the executive offices, sample tables

and in the rear racks for the storing of goods; then the second and third and part of the fourth floors, which will be used at present for the carrying of a complete stock of the various lines handled. It is the first floor, however, that attracts the instant attention of the visitor—finished in quarter oak, with half balconies on either side, the windows being the largest single plates of glass in Boston and with the executive offices, sample rooms and stock tables arranged in the most practical manner it strikes one at once as being a distinct business proposition, and yet at the same time having a degree of elegance not often found in rubber stores. Of course, there are freight elevators, passenger elevators, telephone trunk lines, electric lights and every modern convenience that enterprise can suggest. The lines to be carried, in addition to the Candee rubbers and the general line of rubber clothing and mackintoshes which the Enterprise have always handled, will be a full line of the goods manufactured by The Peerless Rubber Manufacturing Co., for which The Enterprise Rubber Co. are now the exclusive New England agents, a complete line of druggists' sundries, and of automobile and cycle tires. The addition to the selling force are Mr. A. P. Speare, formerly with The Republic Rubber Co., Mr. L. Hinds, formerly with Prescott Brothers, of Boston, and Mr. Gordon Hall, the well known mill supply man.

RUBBER RECLAIMERS ORGANIZE.

A MEETING of reclaimers and manufacturers who buy scrap rubber was held on October 19 at No. 42 Broadway, New York, attended by twenty-two members of the trade. Mr. F. H. Appleton presided and Mr. W. C. Coleman acted as secretary. An executive committee was named, consisting of Messrs. J. K. Mitchell, of the Philadelphia Rubber works; W. T. Rodenbach, of the United States Rubber Co.; Arthur W. Clapp, of the E. H. Clapp Rubber Co.; R. A. Lowenthal, of the U. S. Rubber Reclaiming Works; and J.

A. Lambert, of the Eureka Rubber Manufacturing Co. of Trenton, N. J. The intention is to maintain a social organization rather to attempt to control prices.

BOSTON WOVEN HOSE AND RUBBER CO.

The figures following are a statement of condition of this company on September 1, 1906, and for the corresponding period 1905:

ASSETS.		1906.	1905.
Cash.....	\$	188,128.74	103,610.89
Cash advanced for goods not yet received.....		28,110.01	53,061.38
Accounts receivable.....		490,990.32	442,915.90
Merchandise (Raw, in process, and finished).....		501,582.11	490,083.52
Machinery and tools.....		244,815.00	203,298.00
Land and buildings.....		205,150.00	180,700.00
Furniture.....		1.00	1.00
Patents.....		1.00	1.00
Total.....	\$	1,668,126.18	1,546,271.69
LIABILITIES.		1906.	1905.
Capital stock.....	\$	1,200,000.00	1,200,000.00
Loans.....		None	64,500.00
Accounts payable.....		10,001.72	17,997.50
Surplus.....		457,521.46	293,774.19
Total.....	\$	1,668,126.18	1,540,271.69

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES	Common.			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Sept. 22	18,270	56 ¹ / ₂	53 ¹ / ₄	1,500	111 ¹ / ₄	109 ¹ / ₂
Week ending Sept. 29	23,330	58	54	2,350	110 ⁷ / ₈	110
Week ending Oct. 6	59,620	59 ¹ / ₂	48 ¹ / ₄	2,000	111	108 ³ / ₄
Week ending Oct. 13	8,000	51 ¹ / ₈	49 ¹ / ₈	3,000	110 ⁷ / ₈	110
Week ending Oct. 20	8,130	50 ³ / ₄	47 ¹ / ₈	1,110	109	105
Week ending Oct. 29						

SECOND PREFERRED.

WEEK ending—Sept. 22.	Sept. 29.	Oct. 6.	Oct. 13.	Oct. 20.	Oct. 27.
Sales.....	400	100	800	300	10
High.....	80 ⁷ / ₈	79 ¹ / ₂	80	79 ¹ / ₂	78 ¹ / ₂
Low.....	80	79 ¹ / ₂	79 ¹ / ₂	79 ¹ / ₂	78 ¹ / ₂

PERSONAL MENTION.

MR. LOUIS H. AYME, for three years United States consul at Pará, has been appointed consul general at Lisbon, Portugal. His successor in the Pará consulate is Mr. George H. Pickerill.

=MR. H. N. Towner, of Towner & Co., rubber goods jobbers, Memphis, Tennessee, has been elected president of the executive committee of the Memphis Industrial League.

=MR. Ernest B. Buckleton, secretary and general manager of the Northwestern Rubber Co., Limited (Liverpool), has been on a visit recently to the United States.

=The sales department and branch managers throughout Canada, of the Canadian Rubber Co., of Montreal, Limited, recently presented Mr. J. M. S. Carroll as a mark of esteem on the occasion of his recent marriage—with a massive solid silver tea and coffee dinner service, each piece engraved with the recipient's monogram.

=The corner stone of the Colt Memorial High School, presented to the town of Bristol, Rhode Island, by Colonel Samuel P. Colt, in memory of his mother, Theodora DeWolf Colt, was laid on October 16, with Masonic ceremonies. Among those participating were Governor Utter, Judge Le Baron B. Colt (a brother of Colonel Colt), President Faunce of Brown University, and Principal Charles F. Cape, of the state normal school. The new building will be an

ornament to the town, and the estimated cost is \$250,000.

On October 20 Miss Elsie Webster, daughter of Mr. and Mrs. George Milton Allerton, of Naugatuck, Connecticut, was married to Mr. Ralph Bristol.

TRIBUTE TO MR. GEORGE F. HODGMAN.

At a meeting of the Rubber Sundries Manufacturers' Association, held at the Hotel Astor, in New York, on October 18, 1906, the following tribute to the late Mr. Hodgman was adopted:

WHEREAS, Mr. George F. Hodgman, president of this Association, departed this life on September 28, 1906;

WHEREAS, The success of the Rubber Sundries Manufacturers' Association was largely due to his untiring energy, sound judgment, and deep interest in our Association, as presiding officer and a member of the executive committee; and,

WHEREAS, His genial character and personality has endeared him in the affection and admiration of all who had the great pleasure to know him in his long and honorable life, and none more than the members of this Association; be it,

Resolved, That the members of the Rubber Sundries Manufacturers' Association through the death of our late president, Mr. George F. Hodgman, has suffered an irreparable loss; and further,

Resolved, That in commemoration of the esteem and love in which he was held by the members of this Association, and as evidence of their sorrow over his death and of their sympathy with his stricken family, this preamble and resolution be spread upon the minutes of this Association, and that a copy be forwarded to the family of our deceased associate and beloved friend.

E. E. HUBER, Secretary.

RUBBER PLANTATIONS INJURED.

NEWS comes from Nicaragua of a cyclone and tidal wave that seems to have done much damage. To begin with, the little city of Bluefields is practically in ruins, and it is rumored that Pearl Lagoon is wiped out. Further than this the banana plantations have been destroyed, and report is that a part of the rubber growing on the Manhattan and Cukra plantations has been destroyed. Just how badly the rubber is damaged no one knows as yet. Mr. Gordon Waldron, of the Cukra plantation, is now on his way to Nicaragua and others of the planters who were north are also returning home. Whatever the damage, the impulse of the plantation companies is at once to replant and go ahead with their proposition, as the trees that were already coming into bearing had proved the planting proposition to be a good one.

The Bluefields *American* (October 15) reports the complete destruction of the town of Pearl Lagoon, and adds: "In the near vicinity of the town, the rubber and banana plantations, with some of the buildings, were also laid flat by the unsparing elements. Among the plantations destroyed are the big Cukra (bananas and rubber), Manhattan (rubber) the rubber and banana plantations of Mr. McCullough, Captain J. A. Peterson, and, in fact, all those of that district." There were probably 150,000 well developed rubber trees.

WM. JAS. & HY. THOMPSON report [October 13]:

Pará.—Judging by the large increase in American deliveries during the past three months a good business has been done in the States, but the heavy stocks held in Europe have prevented any material advance in prices from this cause. From now up to the end of next March we should see increasing supplies, and unless a very active demand crops up we do not think higher prices will be justified.

THE TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE offices and salesrooms of the Goodyear Rubber Co. are now located in the new building which the San Francisco branch of the company has built at the old site, No. 573 Market, in the heart of the burned district, which is the same location occupied by the firm for 35 years. President R. H. Pease, of the company is very sanguine as to the outcome of business prosperity of the city. "There never was a time," he said, "When the demand for goods of all kinds was so active on the Pacific coast and especially in San Francisco, when prices were so firm, and when cash payments were so frequent as the present. The new life which the great work of rebuilding has instilled in the people has placed business and the commercial supremacy of the city on a firmer basis than ever. We are now carrying a complete line the same as before, and we intend soon to have a permanent building erected. Our temporary quarters are 60x155 feet in dimensions with two floors and a basement. Our new factory on Spear street is fitted up with a complete line of modern machinery and manufacturing goods the same as before the fire."

The Phoenix Rubber Co. is a new firm which has sprung up since the fire, the principals having been formerly connected with the Boston Woven Hose and Rubber Co. The proprietors of the new firm are Austin Kanzee and James D. Ralph and they have permanently located in a new building, constructed for their exclusive purposes, at Nos. 115-117 Beale street. The building is not quite completed, but will soon be in working order with a factory for valves, gaskets, moulded rubber goods, and with a repair plant for auto tires. They are handling the Republic Rubber Co.'s line of automobile and vehicle tires, belting, etc. They are also handling the general lines of the Continental Rubber Works, and the Chicago Belting Co.'s leather belting.

The Boston Woven Hose and Rubber Co., who were burned out in April, are now located at No. 48 Stewart street, San Francisco. Mr. Joseph V. Selby continues as their Pacific coast manager.

The Gorham Rubber Co. has its new factory and salesrooms at No. 105 Fremont street in complete running order. A number of men are employed in the tire department, the repair department is going full blast, and the factory has all of the work that it can handle. This firm will proceed soon to erect a new and permanent building on Fremont street. It will be five stories with basement, all 60 x 137 feet. Mr. W. J. Gorham is now in Germany, and his purpose in being there is to see what he can do with one of the insurance companies about collecting his losses.

The George B. Dow Pumping Engine Co., No. 179 First street, contemplate entering into the field for rubber supplies although they have not yet decided upon what lines they will handle.

The new offices of the Revere Rubber Co., at 530 Mission street, although in the midst of the ruins are very comfortably fitted inside and are in a very convenient and accessible location.

Barton, Squires & Byrne, a new firm which was formed only a short time before the fire, the members having formerly been connected with the Pacific Coast Rubber Co., are crowded in their new offices at No. 27 Commercial street.

"Business in San Francisco is rushing," said Mr. Squires, "and we have put on two new salesmen this month." This firm is having a new brick building erected for their use, on Howard street. This firm has a factory out on Hampshire street where it is turning out ring and spiral packings.

The Fisk Rubber Co. has permanently located in its new quarters at No. 1030 Golden Gate avenue, where they have a nicely appointed store and complete stock of the various manufacturers whom they represent. R. F. Thompson has taken the position of manager for the San Francisco branch and he took charge a month ago. He was formerly connected with The B. F. Goodrich Co. Mr. G. E. Johnson, the Pacific coast manager of The Fisk Rubber Co. is now in Seattle, Washington, where he is superintending the opening of the firm's new branch in that city at No. 719 East Pike street. This makes three branches which the firm has on the Coast, the other being in Los Angeles.

Otto Richter, treasurer of the Pacific Coast Rubber Co., which takes in the Washington Rubber Co., of Seattle and Tacoma, made a trip to San Francisco recently for the purpose of looking into the matter of erecting a new factory in this city.

The American Rubber Manufacturing Co., Mr. Oliver manager, whose place of business on Spear street was completely destroyed by the fire, and who are now located in new quarters at Emeryville, across the bay, have fitted up a new factory and are doing a flourishing business.

The Hon. L. D. Apsley, of the Apsley Rubber Co., was in San Francisco lately. He expressed himself as being surprised at the remarkable progress which the business houses had made toward getting reestablished.

Other recent visitors to the trade in San Francisco were Messrs. F. B. McIlroy, of the McIlroy Belting and Hose Co. (Chicago) and James F. Giles, representing the American Hard Rubber Co.

M. Byrne, factory superintendent of the Goodyear Rubber Co., has invented a rubber cushion heel which has received favorable attention.

A NEW TIRE COMPANY IN PROSPECT.

JOHN MACMILLAN, of Milwaukee, and Charles G. Fawkes have withdrawn from the Milwaukee Rubber Works Co., and will establish a new factory for the manufacture of the "Fawkes Airless" tires and other articles, patents for which they control. While the "Fawkes" tire as manufactured hitherto has given general satisfaction, yet they claim to have improvements which will greatly increase its popularity and insure a larger demand. Mr. MacMillan is a capable, energetic and successful man with a wide experience in business and well posted in rubber, while Mr. Fawkes is an excellent mechanic and has accomplished in the "Fawkes" tire what so many so called experts thought impossible.

They are considering a number of propositions for locating, and will accept the proposition of the city offering them the most inducements. They are at present in Milwaukee, where they will remain until they decide upon a permanent location.

The Stoughton Rubber Co. are making a very substantial addition to their factory.

REVIEW OF THE CRUDE RUBBER MARKET.

THE market has continued, during the past month, in a stable condition. It has been almost without fluctuation, but with a gradually upward tendency for the Pará sorts, closing both higher than at the beginning of the month and with more firmness. Buying appears more active of late, which would have the effect of stiffening prices, and the increase of arrivals at Pará since July 1 over last season's figures has not been maintained. Stocks of some grades have been very low, particularly of coarse Pará, the advance in which has been more marked than in the case of the fine grades.

There are fewer changes to record in Africans and Centrals, the demand for which has been only moderate during the month. The tendency has been upward, however, as shown in the results of the Antwerp sale on October 23—an average advance of about 2½ cents a pound.

Arrivals at Pará of all grades (including Caucho) since the beginning of the crop year have been :

	1903.	1904.	1905.	1906.
July..... <i>tons</i>	1280	1250	1450	1540
August.....	1230	1260	1360	1400
September.....	2030	1780	2260	1930
October.....	2440	2820	3580	4000
Total.....	6960	7110	8530	9000
	[a—To October 27, 1906.]			

Following is a statement of prices of Pará grades, one year ago, one month ago, and on October 29—this date:

PARA.	November 1, '05.	October 1, '06.	October 20.
Islands, fine, new.....	118@119	119@120	119@120
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	121@122	123@124	124@125
Upriver, fine, old.....	132@133	126@127	128@129
Islands, coarse, new.....	68@69	67@68	72@73
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	89@90	(@) 92	96@97
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet....	70@71	75@76	77@78
Caucho (Peruvian) ball....	85@86	91@92	95@96
Ceylon (Plantation) fine sheet.....	142@143	142@143	139@140

AFRICAN.		CENTRALS.	
Sierra Leone, 1st qual. 104	@ 105	Esmeralda, sausage.	91@ 92
Massai, red. 104	@ 105	Guayaquil, strip.	75@ 76
Benguella. 79	@ 80	Nicaragua, scrap.	89@ 90
Cam roon ball. 77	@ 78	Panama, slab.	67@ 68
Accra flake. 21½	@ 22	Mexican, scrap.	89@ 91
Lopori ball, prime. . . 115	@ 116	Mexican, slab.	67@ 68
Lopori strip, prime. . 107	@ 108	Mangabeira, sheet.	66@ 67
Madagascar, pinky. . 91	@ 92	Guayule.	40@ 42½
Ikelemba. 116	@ 117	EAST INDIAN.	
Soudan niggers. . . . 93	@ 94	Assam.	93@ 94

Late Pará cables quote :

	Per Kilo		Per Kilo.
Islands, fine.....	5 ⁹⁰ / ₁₀₀	Upriver, fine.....	68 ⁹⁰ / ₁₀₀
Islands, coarse.....	3 ⁸⁰⁰ / ₁₀₀₀	Upriver, coarse.....	4 ⁵⁰⁰ / ₁₀₀₀
	Exchange, 15 ³ / ₁₀₀ d.		

Last Manãos advices :

Upriver, fine.....	7\$ ⁰⁰⁰	Upriver, coarse.....	4\$ ⁵⁰⁰
Exchange, 15 $\frac{1}{2}$ <i>d</i> .			

NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER).

	1966,	1965,	1964
Upriver, fine	1.22 (a) 1.24	1.28 (a) 1.31	1.12 (a) 1.19
Upriver, coarse . . . . .	.89 (a) .91	.90 (a) .95	.87 (a) .91
Islands, fine	1.18 (a) 1.20	1.25 (a) 1.28	1.09 (a) 1.15
Islands, coarse . . . . .	.64 (a) .65	.68 (a) .71	.63 (a) .66
Cametá . . . . .	.69 (a) .71	.71 (a) .76	.64 (a) .66

NEW YORK RUBBER PRICES FOR AUGUST. (NEW RUBBER).

	1905	1904
Upriver, fine.....	1.22 <i>60</i> 1.24	1.18 <i>60</i> 1.24
Upriver, coarse.....	.91 <i>60</i> .92	.89 <i>60</i> .91
Islands, fine.....	1.18 <i>60</i> 1.20	1.25 <i>60</i> 1.27
Islands, coarse.....	.65 <i>60</i> .67	.65 <i>60</i> .67
Canetá.....	.68 <i>60</i> .70	.71 <i>60</i> .73

NEW YORK PRICES FOR SUPHUR (NEW RUBBER).

	1, 2	1, 3	1, 4
Upriver fine	\$1,226a	\$1,24	\$1,296a
Upriver coarse . . . . .	.926a	.94	.856a
Islands fine	1,186a	1,29	1,076a
Islands coarse . . . . .	.666a	.72	.596a
Cametá . . . . .	.686a	.74	.666a

Statistics of Para Rubber (Excluding Cauchou).

	NEW YORK.				
	Fine and Medium.	Coarse.	Total. 1905.	Total. 1905.	Total. 1904.
Stocks, August 31..... <i>tons</i>	87	6 =	93	310	93
Arrivals, September.....	977	316 =	993	513	691
Aggregating.....	764	322 =	1086	829	754
Deliveries, September.....	629	304 =	930	512	740
Stocks, September 30.....	135	21 =	156	317	44
	PARA.			ENGLAND.	
	1904.	1905.	1904.	1905.	1904.
Stocks, August 31..... <i>tons</i>	450	275	300	700	380
Arrivals, September.....	1930	2055	1741	635	652
Aggregating.....	2380	2330	2101	1335	1032
Deliveries, September.....	1950	1853	1728	850	725
Stocks, September 30....	1450	477	573	455	307

	1907	1908	1909
<i>a</i> World's visible supply, September 30. <i>tons</i>	1885	1907	1463
Pará receipts, July 1 to September 30. . . .	4795	4535	3961
Pará Receipts of Cacho, same dates.	630	585	349
Afloat from Pará to United States, Sept. 30.	264	307	303
Afloat from Pará to Europe, September 30.	530	499	525

a—Not including holdings in Continental Europe.

VISIBLE SUPPLIES AT THE END OF SEPTEMBER, REPORTED FROM ANOTHER SOURCE.

STOCKS AT—	Pará.	Caicho	Total.
Pará..... <i>tons</i>	470	20	490
Liverpool.....	40	20	540
Continent.....	250	20	270
New York.....	210	50	340
Alto Pará Europe.....	230	50	570
“ Pará-America.....	270	10	280
“ England America.....	50	=	50
Total.....	2350	200	2550

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots in cents per pound—are somewhat higher throughout the list:

Old Rubber Boots and Shoes	Domestic	74	(a)	938
Do	Foreign	812	(a)	838
Pneumatic Bicycle Tires		712	(a)	714
Automobile Tires		10	(a)	108
Solid Rubber Wagon and Carriage Tires		8	(a)	878
White Trimmed Rubber		1112	(a)	1114
Heavy Black Rubber		212	(a)	518
Air Brake Hose		14	(a)	2
Fire and Large Hose		378	(a)	34
Garden Hose		212	(a)	24
Matting		112	(a)	158

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) reports:

"During October the money market has continued strong, and the demand for paper has been very spasmodic, mostly from out-of-town banks, at rates running from 6 to 7 per cent."

Rubber Receipts at Manaus.

DURING September and three months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	SEPTEMBER,			JULY-SEPTEMBER,		
	1905.	1905.	1904.	1905.	1905.	1904.
Rio Purús Acre ... tons	202	511	493	987	1167	909
Rio Madeira.....	370	316	193	904	786	672
Rio Juruá.....	173	222	190	328	316	215
Rio Javary Ignitos. .	392	444	68	541	564	281
Rio Solimões.....	54	166	32	116	210	12
Rio Negro.....	4	1	3	4	6	3
Total.....	1195	1600	889	2880	3049	2122
Caucho.....	238	212	40	475	398	218
Total.....	1433	1812	929	3355	3447	2340

Bordeaux.

At the inscription sale on October 16 the quantity of rubber offered was 122,741 kilos, of which 53,690 was sold. Soudan niggers brought 8.27½ @ 10.52½ francs; Madagascar Majunga, 10.25; Mexican scraps, 9.85; Ecuador scraps, 10 @ 10.60; Ecuador strips, 9.35 @ 10 francs.

Antwerp.

At the inscription sale on October 23, at which about 419 tons of rubber were offered, the prices realized showed an average advance over estimations of 25 centimes per kilo, or about 2½ cents per pound.

ANTWERP RUBBER STATISTICS FOR AUGUST.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, July 31, kilo.	531,441	819,559	872,740	377,527	689,772
Arrivals in August..	578,122	509,389	244,704	347,962	321,102
Congo sorts.....	138,095	378,293	221,668	322,136	291,073
Other sorts.....	149,117	134,126	23,039	24,926	27,119
Aggregating ...	1,109,563	1,328,948	1,117,450	724,589	1,010,904
Sales in August....	422,660	779,740	514,955	404,603	254,563
Stocks, August 31..	686,807	558,202	602,495	319,986	756,401
Arrivals since Jan. 1	3,933,727	3,719,673	3,700,621	3,326,304	3,558,836
Congo sorts.....	2,998,843	2,911,293	3,070,256	2,971,328	3,295,549
Other sorts.....	934,884	808,380	630,365	355,066	263,287
Sales since Jan. 1..	3,982,047	3,702,832	3,718,020	3,664,513	3,217,144

RUBBER ARRIVALS AT ANTWERP.

OCT. 2.—By the *Albertville*, from the Congo:

Bunge & Co..... (Générale Africaine) kilos	87,000
Do (Grand Laes)	700
Do (Société A B I R)	22,000
Do (Comité Katanga)	3,500
Do (Cie. du Kasai)	58,000
Comptoir Commercial Congolais.....	9,000
M. S. Cols..... (Alina)	5,000
Société Coloniale Anversoise.....	9,000
Do (Lulonga)	1,500
Do (Lomami)	6,500
Do (Alima)	2,000
Société Générale de Commerce..... (Alima)	7,500
L. & W. Van de Velde.....	6,000
Total.....	217,700

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

FOUNDS.	FOUNDS.
January 1 to Aug 13....177,691	Total, 1906.....222,201
Week ending Aug. 20....11,840	Same dates, 1905.....84,408
Week ending Aug. 27....5,896	Same dates, 1904.....45,666
Week ending Sept. 3....9,975	Same dates, 1903.....28,821
Week ending Sept. 10....4,681	
Week ending Sept. 17....12,118	

DESTINATION.

Great Britain.....	155,006	Australia.....	2,772
United States.....	50,877	France.....	3,307
Germany.....	9,467	Belgium.....	772

London.

LONDON RUBBER SALES.

OCTOBER 5.—Plantation grown Pará in good demand. Small sales have been made privately at 5s. 7d. to 5s. 7½d. for fine biscuits and sheet and 5s. 7¼d. to 5s. 7¾d. for fine crepe. Block inquired for. [Price of fine Pará, 5s. 1d.] No auctions to-day.

OCTOBER 12.—The market has been quiet but steady during the fortnight. Quotations are rather higher, but not much business has been done. Hard fine spot and near has sold at 5s. 1½d. to 5s. 2d. Fair sales of fine Islands at 5s. 1d. Sales of old Bolivian up to 5s. 3d., according to age. Fine Mollendo at 5s. At to-day's auction medium grades in good supply and most sorts selling well at full prices. Assams in better demand and No. 1 sold at 3s. 9½d. to 10d. Matogrosso mangabeira sheet 3s. 1¼d. to 3s. 3d. Mozambique fine clean small ball (red) 4s. 8¾d. to 4s. 9¼d. Madagascar pinky up to 3s. 7½d.

Plantation.—At to-day's auction 407 packages Ceylon and Straits rubber, and about 232 sold. The weight amounted to about 23 tons. A fine parcel of crepe from Bukit Rajah estate realized up to 5s. 8d. [= \$1.37½] per pound. Scrap sold up to 4s. 6½d.

Liverpool.

WILLIAM WRIGHT & Co. report [October 1]:

Fine Para. The market has been active, but at gradually declining prices, except for old Bolivian. At the close, prices show a tendency to further lose, but a slight reduction on present values would, we think, lead to a very active trade demand. We do not anticipate, even with increased receipts, any "slump" in values; the requirements of the trade both in Europe and America are sufficient to prevent this. On the other hand, it seems to us there is not much chance of a heavy advance. American manufacturers have this season adopted a wise policy in not rushing prices when covering requirements. In our manufacturers may accept about 5 shillings [= \$1.21½] as a sound basis at which to purchase.

EDMUND SCHLÜTER & Co. report [September 30]:

Fine Pará has ruled quiet and steady during the first three weeks of September, but towards the close of the month prices became irregular and somewhat easier owing to the decline in the Brazil exchange. Owing to the delay of arrivals at Manaus the receipts during September remained below the estimate, while deliveries in the trade show an increase in excess of the total crop increase since July 1. The position has, therefore, for the time being, gained in strength and sellers are reluctant to contract forward deliveries at a discount.

WORLD'S VISIBLE SUPPLY OF PARÁ, SEPTEMBER 30.

	1906.	1905.	1904.	1903.	1902.
Tons.....	2274	2302	1719	1870	2759
Prices, hard fine 5.1	5.6	4'9½	4'8	3'1½	

LIVERPOOL STOCKS OF AFRICAN RUBBER, SEPTEMBER 30.

1906.....	311	1903.....	217	1900.....	725
1905.....	266	1902.....	524	1899.....	580
1904.....	402	1901.....	722	1898.....	381

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

September 25.—By the steamer *Hildebrand* from Manaus and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co....	191,600	41,000	80,900	2,500	316,000
Poel & Arnold.....	72,800	20,500	71,900	2,700	167,900
N. Y. Commercial Co..	40,800	9,400	4,700	2,200	57,100
A. T. Morse & Co.....	34,300	5,700	8,500	9,300	57,900
Edmund Reeks & Co..	13,000	6,500	19,000		39,000
Hagemeyer & Brunn..	17,700	1,800	5,400		24,800
Neale & Co.....	700	700	12,600		14,000
C. P. dos Santos.....	4,000	600	2,600		7,200
Total.....	374,900	86,200	206,100	16,700	683,900

October 4.—By the steamer *Basil*, from Manáos and Pará:

General Rubber Co.	105,400	16,500	67,400	180,300
Poel & Arnold,	58,800	11,100	73,500	151,000
N. Y. Commercial Co., ..	64,200	5,400	13,700	91,000
Neale & Co.,	3,200	.....	5,600	59,200
Edmund Reeks & Co., ..	14,600	0,000	11,400	32,000
C. P. dos Santos,	22,500	4,300	1,500	28,600
A. T. Morse & Co.,	6,500	700	3,200	10,700
Hagemeyer & Brunn, ..	6,700	.....	2,500	9,200

Total,

October 15.—By the steamer *Maranhense*, from Manáos and Pará:

Poel & Arnold,	125,100	27,800	105,600	24,300	282,800
General Rubber Co., ..	147,100	18,400	59,900	2,600	228,000
N. Y. Commercial Co., ..	106,300	21,600	11,200	900	170,000
A. T. Morse & Co.,	30,500	1,500	51,300	15,600	99,400
Edmund Reeks & Co., ..	32,600	5,800	11,200	.....	52,600
Neale & Co.,	26,700	2,100	23,200	.....	52,000

Hagemeyer & Brunn, ..	11,400	2,900	18,200	.....	62,500
Lawrence Johnson & Co.,	20,000	.....	2,200	.....	22,200
Czanikow, McDougal Co.,	8,500	.....	.....	.....	7,500

Total,

October 25.—By the steamer *Hubert* from Manáos and Pará:

A. T. Morse & Co.,	191,000	20,300	71,500	400	286,800
N. Y. Commercial Co., ..	98,300	10,100	10,900	21,000	158,300
General Rubber Co., ..	89,000	18,600	28,000	.....	135,600
Poel & Arnold,	88,900	18,400	19,100	7,400	133,800
C. P. dos Santos,	70,000	12,100	11,900	.....	103,000
Neale & Co.,	11,500	300	43,200	.....	55,300
Edmund Reeks & Co., ..	29,400	7,900	8,500	.....	42,800
Hagemeyer & Brunn, ..	10,100	1,000	2,400	.....	22,500
Meyer & Busweiler, ..	5,500	.....	1,300	.....	6,800

Total,

NOTE.—The *Donna* is due on November 4, with 400 tons of Pará rubber.

PARA RUBBER VIA EUROPE.

SEPT. 25.—By the <i>Georgia</i> —Liverpool:	
New York Commercial Co. (Fine),	20,000
OCT. 1.—By the <i>Imbria</i> —Liverpool:	
General Rubber Co. (Fine),	20,000
OCT. 1.—By the <i>Panama</i> —Mollendo:	
Boston & Bolivia Co. (Fine),	5,000
W. R. Grace & Co. (Ancho),	19,000
OCT. 3.—By the <i>Ocean</i> —Liverpool:	
Poel & Arnold (Fine),	22,500
OCT. 4.—By the <i>Carmonia</i> —Liverpool:	
New York Commercial Co. (Fine),	22,500
OCT. 6.—By the <i>Campania</i> —Liverpool:	
New York Commercial Co. (Fine), ..	11,500
C. P. dos Santos (Fine),	2,500
OCT. 10.—By the <i>Armenian</i> —Liverpool:	
Poel & Arnold (Fine),	22,500
Poel & Arnold (Coarse),	17,500
OCT. 12.—By the <i>Toutonic</i> —Liverpool:	
New York Commercial Co. (Fine), ..	11,500
A. T. Morse & Co. (Fine),	11,000
OCT. 12.—By the <i>Patricia</i> —Hamburg:	
New York Commercial Co. (Fine), ..	15,000
A. T. Morse & Co. (Coarse),	13,500
OCT. 15.—By the <i>Ethoria</i> —Liverpool:	
Robinson & Stiles (Fine),	93,000
OCT. 17.—By the <i>Carmonia</i> —Liverpool:	
New York Commercial Co. (Fine), ..	20,000
OCT. 18.—By the <i>Baltic</i> —Liverpool:	
A. T. Morse & Co. (Fine),	22,500
OCT. 20.—By the <i>Lucania</i> —Liverpool:	
New York Commercial Co. (Fine), ..	34,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.	
SEPT. 24.—By the <i>Goia</i> —Pernambuco:	
Lawrence Johnson & Co.,	6,000
American Commerce Co.,	2,500
SEPT. 25.—By the <i>Georgia</i> —Liverpool:	
George A. Alden & Co.,	15,000
General Rubber Co.,	8,000
SEPT. 26.—By the <i>Toutonic</i> —Colon:	
Isaac Brandon & Bros.,	1,000
D. A. DeLima & Co.,	1,000
Mecke & Co.,	1,000
Kunhardt & Co.,	1,000
A. Held,	1,000
Suzarte & Whitney,	500
Punderford & Co.,	500
Escobar & Gorgoz,	500
SEPT. 26.—By the <i>Advance</i> —Colon:	
Feltman Estate,	13,200
Mann & Emdon,	5,000
Roldan & Van Sickle,	3,500
A. Santos & Co.,	2,500
Pablo, Calvet & Co.,	1,700
Dumarest Bros. & Co.,	1,300
G. Amsinck & Co.,	1,100
Lawrence Johnson & Co.,	700
A. M. Capen Sons,	700
Isaac Kubie & Co.,	500
SEPT. 8.—By the <i>Seneca</i> —Tampico:	
New York Commercial Co.,	20,000
Isaac Kubie & Co.,	1,000

CENTRALS—Continued.

SEPT. 26.—By the <i>El Norte</i> —Galveston:	
Continental Mexican Co.,	63,000
OCT. 1.—By the <i>Panama</i> —Colon:	
Feltman Estate,	9,700
New York Commercial Co.,	5,000
Piza, Nephews & Co.,	1,500
Mann & Emdon,	700
W. H. Coolidge,	600
Barling & DeLeon,	600
OCT. 3.—By the <i>Mesaba</i> —London:	
George A. Alden & Co.,	17,500
OCT. 3.—By the <i>Santa</i> —Colombia:	
Isaac Brandon & Bros.,	3,500
Fould & Co.,	2,500
J. A. Pauli & Co.,	2,500
Graham, Hinkley & Co.,	1,000
American Trading Co.,	500
OCT. 3.—By the <i>Barbano</i> —Tampico:	
Edward Mamer,	27,000
New York Commercial Co.,	20,000
OCT. 6.—By the <i>Merida</i> —Mexico:	
Harburger & Stack,	3,000
H. Marquardt & Co.,	1,000
I. Steiger & Co.,	1,000
Isaac Kubie & Co.,	500
Ferd. Bundeles,	500
American Trading Co.,	500
OCT. 6.—By the <i>Albania</i> —Colon:	
Mann & Emdon,	3,000
G. Amsinck & Co.,	2,500
Dumarest Bros. & Co.,	2,000
Meyer Hecht,	1,500
OCT. 6.—By the <i>El Col</i> —New Orleans:	
A. T. Morse & Co.,	3,500
A. N. Rotholz,	3,000
Manhattan Rubber Mfg. Co.,	2,000
Eggers & Hemlen,	1,000
OCT. 8.—By the <i>La Bretagne</i> —Havre:	
George A. Alden & Co.,	5,000
OCT. 9.—By the <i>Prins August Willem</i> —Colombia:	
D. A. De Lima & Co.,	1,500
J. A. Pauli & Co.,	1,500
A. A. Lindo & Co.,	1,000
Isaac Brandon & Bros.,	500
A. Held,	500
OCT. 11.—By the <i>Venetia</i> —Colon:	
Feltman Estate,	23,000
George A. Alden & Co.,	1,000
G. Amsinck & Co.,	500
OCT. 11.—By the <i>Orinoco</i> —Grestown, etc.:	
E. B. Strout,	6,000
A. Held,	2,500
G. Amsinck & Co.,	1,500
Punderford & Co.,	500
Silva Bissens & Co.,	500
Roldan & Van Sickle,	500
American Trading Co.,	500
OCT. 11.—By the <i>Finanza</i> —Colon:	
New York Commercial Co.,	12,500
Feltman Estate,	6,000
G. Amsinck & Co.,	6,000
America Trading Co.,	4,000
Roldan & Van Sickle,	3,500
A. Santos & Co.,	2,000
Isaac Brandon & Bros.,	2,000
Piza, Nephews Co.,	1,500
Lawrence Johnson & Co.,	1,500
E. B. Strout,	1,000
W. R. Grace & Co.,	1,000
Dumarest Bros. & Co.,	1,300

CENTRALS—Continued.

OCT. 12.—By the <i>Cantrag</i> —Bahia:	
J. H. Rosback & Bros.,	36,000
American Commerce Co.,	22,000
OCT. 12.—By the <i>El Sud</i> —New Orleans:	
Manhattan Rubber Manufacturing Co.,	2,000
Continental Mexican Co.,	2,000
OCT. 13.—By the <i>Esperanza</i> —Mexico:	
H. Marquardt & Co.,	2,500
E. Steiger & Co.,	1,500
Harburger & Stack,	1,500
Graham, Hinkley & Co.,	500
Fred Probst & Co.,	500
OCT. 13.—By the <i>Ethoria</i> —Liverpool:	
General Rubber Co.,	9,000
OCT. 15.—By the <i>Yucatan</i> —Tampico:	
New York Commercial Co.,	6,500
OCT. 15.—By the <i>Colon</i> —Colon:	
Feltman Estate,	5,000
Andean Trading Co.,	700
OCT. 17.—By the <i>Carmonia</i> —Liverpool:	
General Rubber Co.,	13,500
OCT. 17.—By the <i>El Mar</i> —Galveston:	
Continental Mexican Co.,	27,000
OCT. 18.—By the <i>Siberia</i> —Colombia:	
Columbian Trading Co.,	4,000
A. S. Henty Co.,	3,000
A. Saunders & Co.,	3,000
Seanz & Co.,	3,000
American Trading Co.,	1,000
H. Augener,	1,000
Isaac Brandon & Bros.,	1,500
OCT. 20.—By the <i>Matanzas</i> —Tampico:	
New York Commercial Co.,	22,500
Edward Maurer,	25,000

AFRICANS.

SEPT. 24.—By the <i>Amerika</i> —Hamburg:	
A. T. Morse & Co.,	6,000
SEPT. 24.—By the <i>La Gayne</i> —Havre:	
A. T. Morse & Co.,	7,000
SEPT. 25.—By the <i>Georgia</i> —Liverpool:	
George A. Alden & Co.,	65,000
Poel & Arnold,	3,000
SEPT. 25.—By the <i>Missouri</i> —Antwerp:	
A. T. Morse & Co.,	9,000
SEPT. 27.—By the <i>Majestic</i> —Liverpool:	
Rubber Trading Co.,	15,000
A. T. Morse & Co.,	13,500
George A. Alden & Co.,	10,000
Henty & Gould Co.,	5,000
Wallace L. Gough,	1,500
Earle Brothers,	3,000
SEPT. 27.—By the <i>Pennsylvania</i> —Hamburg:	
A. T. Morse & Co.,	31,000
George A. Alden & Co.,	25,000
OCT. 1.—By the <i>Zubia</i> —Liverpool:	
George A. Alden & Co.,	75,000
General Rubber Co.,	34,000
OCT. 2.—By the <i>Zeeland</i> —Antwerp:	
A. T. Morse & Co.,	7,000
OCT. 2.—By the <i>Cerd</i> —Liverpool:	
Poel & Arnold,	11,500
A. T. Morse & Co.,	3,000
A. W. Brunn & Co.,	1,700

EUROPEAN.

MONTH.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	4,973,379	270,170	3,704,209
January-July.....	35,210,127	2,070,978	39,130,520
Eight months, 1906.....	42,283,577	2,358,887	39,924,720
Eight months, 1905.....	44,077,810	2,052,652	42,025,158
Eight months, 1904.....	41,039,173	2,220,818	39,490,305

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	2,400,549	1,052,200	1,438,540
January-July.....	23,000,500	6,511,780	16,494,720
Eight months, 1906.....	25,417,549	7,504,040	17,913,509
Eight months, 1905.....	26,086,140	10,100,720	15,985,420
Eight months, 1904.....	23,755,600	6,577,670	17,177,930

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	1,710,720	1,050,600	54,120
January-July.....	16,725,540	10,220,340	6,473,200
Eight months, 1906.....	21,417,200	11,885,040	9,527,320
Eight months, 1905.....	18,173,540	10,788,580	7,384,960
Eight months, 1904.....	18,170,820	7,431,100	10,739,720

AFRICANS—Continued.

MONTH.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	100,000	100,000	0
January-July.....	85,000	10,000	75,000
Eight months, 1906.....	100,000	10,000	90,000
Eight months, 1905.....	100,000	10,000	90,000
Eight months, 1904.....	100,000	10,000	90,000

EAST INDIAN.

MONTH.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	7,500	3,500	4,000
January-July.....	3,500	3,000	500
Eight months, 1906.....	7,500	3,500	4,000
Eight months, 1905.....	7,500	3,500	4,000
Eight months, 1904.....	7,500	3,500	4,000

GUTTA-JELUTONG.

MONTH.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	15,000	15,000	0
January-July.....	15,000	15,000	0
Eight months, 1906.....	15,000	15,000	0
Eight months, 1905.....	15,000	15,000	0
Eight months, 1904.....	15,000	15,000	0

GUTTA-PERCHA AND BALATA.

MONTH.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	9,500	9,500	0
January-July.....	9,500	9,500	0
Eight months, 1906.....	9,500	9,500	0
Eight months, 1905.....	9,500	9,500	0
Eight months, 1904.....	9,500	9,500	0

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—SEPTEMBER.

Imports.	Pounds.	Value.
India-rubber.....	4,396,078	\$3,421,950
Gutta-percha.....	17,004	4,139
Gutta-jelutong (Pontianak).....	1,959,609	67,361
Total.....	6,372,691	\$3,493,450
Exports:	Pounds.	Value.
India-rubber.....	34,912	\$ 32,370
Reclaimed rubber.....	7,759	1,207
Rubber Scrap Imported.....	1,593,505	\$ 119,860

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	4,973,379	270,170	3,704,209
January-July.....	35,210,127	2,070,978	39,130,520
Eight months, 1906.....	42,283,577	2,358,887	39,924,720
Eight months, 1905.....	44,077,810	2,052,652	42,025,158
Eight months, 1904.....	41,039,173	2,220,818	39,490,305

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	4,625,264	2,266,006	2,359,168
January-July.....	30,059,104	21,530,006	17,529,008
Eight months, 1906.....	43,684,368	23,796,102	19,888,170
Eight months, 1905.....	42,285,060	23,112,440	19,172,620
Eight months, 1904.....	38,208,848	22,141,002	16,157,786

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
August, 1906.....	1,251,351	1,564,499	313,148
January-July.....	12,666,927	7,880,391	4,786,536
Eight months, 1906.....	13,918,278	9,444,800	4,473,388
Eight months, 1905.....	11,765,630	8,256,674	3,508,956
Eight months, 1904.....	11,609,384	9,727,955	1,881,429

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

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GUTTA-PERCHA

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PROGRESS IN TIRE MAKING.

WE decline to record a prophecy as to whether automobiles will ever be run very generally without rubber tires. But it is a safe assertion that, without elastic rims for wheels, the automobile as we now know it would never have been developed. Progress in automobile building—as relates to size, the speed attained, and the safety of automobiling—has been made only so fast as the rubber manufacturer has succeeded in producing tires capable of withstanding the increasingly heavy strains placed upon them. We believe that the rubber men have more than kept pace with the car constructors in their share in the evolution of the automobile.

In the first recorded automobile race, no competing builder was willing to have his car equipped with rubber. But a rubber manufacturer who was determined to have elastic tires tested built a car himself for which his factory supplied the tires. No less than 26 tires were burst in running that car 621 miles, and the result discouraged the use of rubber for a considerable time. But the automobiles of that period were all unsatisfactory, for reasons which disappeared only when, through the incessant efforts of the rubber men, resilient tires were produced that could be depended on.

Now that the automobiles in use are numbered by the hundred thousand, who sees one without rubber tires? They are used as a matter of course, bought as an every day commodity, without a further guarantee than applies to the sale of goods generally. Tire punctures happen every day, of course, but considering the great number in use, the percentage is surprisingly small. And by no means all the accidents in motoring are due to tires. A contestant in a recent great automobile meet in Europe, returning from the course with honors, ditched his machine in trying to avoid running down a drunken peasant's cart, and the automobile was rendered useless. But there is no record that the tires were damaged.

Incidents can be multiplied indefinitely to show that pneumatic tires withstand hard treatment and accidents quite as well, if not better, than the remainder of the vehicle. A tire goes bounding over a stone in the road, unharmed, but if a crankshaft strikes it, it may be bent and rendered useless. The rubber is elastic; the steel isn't. As far as strength is concerned, the tire maker has only to put in the proper materials, in connection with good workmanship, and the same applies to durability.

Good roads are desirable for automobiling, but not so much for rubber tires as for the rest of the machine; in fact, the great merit of the rubber equipment is that it supplies a good road wherever it is carried, and without which, in very many places, the automobile would be unavailable. The best rubber tires made yet may not be perfect; the maximum severity of requirement on the part of the motorists has not been reached. Even

for present requirements the live rubber tire maker is busying his faculties to bring out a stronger, more trustworthy, and more durable product, being careful meanwhile that his competitors do not surpass him.

So we may look for even better tires, and, with their appearance, new records in automobile construction and automobile running. There is even greater incentive than before for the rubber man to devote himself to tire betterment, even if, in the distant future, roads should be so improved as to render elastic tires unnecessary, or springs and shock absorbers should be developed to the point of displacing them.

USE OF RUBBER FOR INSULATION.

IT is natural that, to "the man in the street," motor car tires should represent the greatest development in the history of the rubber industry. Ten years ago the horseless vehicle was so little in evidence that it hardly had a more definite name in popular speech. To-day only the blind can avoid seeing automobiles constantly, and the rubber tire is by no means the least conspicuous feature of these vehicles. It is not too much to say that doubtless millions of people have derived from seeing such tires their first idea of rubber as a commodity of real importance. And nine out of ten writers in the public press who have occasion to mention rubber refer to its price having advanced greatly in recent years on account of its consumption in tires. The tire trade, in fact, has become enormous, not only as regards automobiles, but nearly every other type of vehicle used.

But this is not the only great use of rubber; it is possible that it is not the greatest. It certainly is not the only branch of rubber consumption that has shown a rapid rate of increase during ten years past. A use of rubber that appeals less to public interest, because it is by comparison so little seen, is in the electrical field, for insulation purposes. Without means for insulation the electricity in everyday practical use would be as uncontrollable as the lightning flashes in a thunder storm, and rubber is, *par excellence*, the world's insulating material. It is only necessary, therefore, to reflect upon the extent of the applications of electricity to-day, to realize what an important demand these must create for the products of the rubber factory.

The electrical interest embraces the making of submarine cables, which have been insulated, for the most part, with Gutta-percha, but this material is disappearing from the market and must be replaced by India-rubber for deep sea work. From submarine cables, costing sometimes millions of dollars, down to telephone receivers, the list of articles requiring insulation is too long almost to be comprehensible, but into nearly all of them rubber enters, the sum total in a year being very large. Here the automobile comes in again, at least the electric vehicles, an important feature of which is the hard rubber battery jars, for the storage of the motive force.

No exact statistics of the extent of the use of rubber in the electrical industries of the world are possible. But to indicate the growth of the electrical industry in the United States alone it may be worth while to notice that the recent industrial census reports the total value of products of the factories classed under "Electrical machinery, apparatus, and supplies" during 1905 at \$159,551,402 against \$105,831,865 for the census year 1900. These figures, of course, do not relate alone to goods into which rubber enters. The figures for "Insulated wires and cables" were \$34,519,600 last year, against \$21,292,001 in the year 1900. On the other hand, a number of general rubber factories produce electrical materials which are not embraced in the preceding figures.

CONTROL OF THE PRICE OF RUBBER.

EVERY year brings its crop of rumors of new "rubber trusts;" indeed, no other branch of industry or trade seems to have been the subject of so many rumors of this sort, nor with so little basis of fact. One reason is that, although rubber is a commodity in such widespread use, its principal sources, to date, have been so remote from centers of civilization that most people know little about how crude rubber is produced. And the general public, whether in America or Europe, is little better informed regarding the processes of making rubber goods. Hence, when the average man reads that a new great "trust" in rubber is being formed, he accepts the assertion as fact, merely because it has appeared in print.

As for crude rubber "trusts," interest in them centers in the suggestion usually made that their object is to raise prices of the raw material, which would, of course, compel manufacturers to charge more for rubber goods. It is an odd fact, however, so loosely are these rubber "trust" rumors put together, that manufacturers—*i. e.*, the primary consumers of raw rubber—are often represented as promoting movements to put up its price. To a thinking man nothing could be more improbable.

A pertinent question is, Can any "trust" raise the world's level of rubber prices? If all the sources of rubber, present and prospective, could be brought under a single control, it would be a simple proposition to dictate prices to the whole world. The same is true of wheat and cotton and coal and tallow candles. But such consolidated control of rubber is out of the question. It was an impracticable dream when rubber was only a forest product in a few countries; the idea is more chimerical now that the area of rubber production is being extended so widely under cultivation. If all the rubber trees in the Amazon valley were owned to-day by one man, the world could soon become independent of him, through the planting of Para rubber elsewhere.

Under conditions as they actually exist, and always have existed, the price of rubber is governed by the supply, considered in relation to the demand. There is

always as much rubber as the world wants. It is true that the rubber districts known fifty years ago became in time incapable of supplying the demand, but the offer of higher prices for rubber led to the exploiting of new districts. When there were no new districts to be discovered, and prices continued to rise, people began to plant rubber. It is possible that cultivation may yet make rubber so plentiful that prices will fall materially. But then as now, the price of rubber will depend upon how much the consuming trade will pay for it; not upon the cost of production, not upon efforts at market control by traders, not even upon governmental control, as lately reported from Brazil.

To state the matter more briefly, the price of rubber is governed by the supply. Its sources are too extensive and too scattered to be "cornered." The price fluctuations of a day caused by petty local manipulation are mere exceptions to a general rule. If it should be to the interest of a consumer to pay a high price, he will pay it, not caring what the profit of the producer may be. On the other hand, he will not pay more for rubber than the demand justifies, no matter if the price means a loss to the producer.

A RUBBER FARM FOR EACH FACTORY.

WHEN companies first began to be formed for exploiting rubber plantations in Mexico on a large scale, their promoters invariably solicited investment on the part of rubber manufacturers, under the impression that the latter would become interested more readily than any other class in the creation of new sources of raw material. As a rule, however, few manufacturers at first were disposed to take stock in this new form of enterprise. Their capital was fully employed in the making of goods and finding a market for them—a business with which they were familiar. Rubber culture had not been proved a success, it involved problems to which they were strangers, and in any event capital invested in planting would not yield an early return. They used cotton as well as rubber, but they had never thought of producing their own supplies of cotton. They were content to continue buying raw materials as they had always done.

Now that the production of plantation rubber has emerged beyond the experimental stage, there are indications that the rubber manufacturers are beginning to view in a different light the question of a factory controlling its own base of supplies. As has been pointed out in THE INDIA RUBBER WORLD there are rubber planters to-day who estimate their profit on rubber at \$1 or more per pound. Even if rubber should decline in price one-half—which no one now considers probable—these planters say that its cultivation would still be profitable. Clearly, the manufacturer who owned a plantation on which rubber could be obtained at a cost of \$1—or 50 cents—less than the market price for the product

would have an advantage over a competitor who bought in the open market. These figures, by the way, are not mere guesswork, but are supplied by men accustomed to the management of large plantations—particularly tea—under business systems as well organized as those of any manufactory.

As more planted rubber estates become productive, and the planting of this crop becomes recognized as an established business, we may expect the buying and selling of such properties to become an ordinary occurrence. It may be then that large rubber manufacturers, who would have hesitated to invest in the creation of a rubber farm requiring years for development, will feel differently about buying one which has become productive and profitable, if obtainable on reasonable terms. Or they may buy shares in the larger, company-owned plantations, conducted on a scale too extensive for the capital of most rubber factories.

Without doubt there will be found, in time, advantages to the rubber factory in having its own rubber farm, apart from the item of supplies at low cost. One would be the securing of rubber of uniform quality—made to the manufacturer's own specifications, so to speak—delivered at stated periods, and the cost of which could be determined for months, if not years, in advance.

OUR CONGRATULATIONS TO THE GERMAN RUBBER TRADE for having contributed by its liberal support to the development of so creditable a representative of its interests as the *Gummi-Zeitung*, of Dresden, which has just completed its twentieth year of publication. Looking back to the first issue of our contemporary, now before us, we find a very small production indeed, as compared with the *Gummi Zeitung* of to-day, but it must be said that Herr Gampe gave indications from the start of recognizing what a trade and technical journal in this particular branch should be, to prove helpful to its patrons. Unfortunately he did not live to see the success which his paper has attained, but it is none the less a striking testimonial to the intelligent farsightedness with which he planned the publication. The *Gummi-Zeitung* and the German rubber industry have grown hand in hand. The rate of growth of the industry is shown by the net imports of raw rubber, now six times as great as they were twenty years ago; we should say that the German trade paper has done even better.

WHETHER ANY EUROPEAN TIRE MAKERS will establish factories in the United States must be determined apart from any such considerations as have led Continental firms to plan branch factories in Great Britain. The Britisher apparently buys motor tires (and other wares) more readily if they are produced on British soil, and the Continental firms which gained a market in England before the home industry there was fully developed are seeking to hold this trade by offering their tires as "home made." But European tires, however good, have never been predominant in the American market, nor the trade in them relatively so large as in Great Britain. It is true that the American tariff barrier would be avoided by European firms by establishing plants here, but perhaps any saving under this head would be offset by the higher scale of wages in the United States.

MR. RYAN BECOMES INTERESTED IN RUBBER.

IN the recent negotiations which resulted in the granting of important concessions in the Congo Free State to an American syndicate, the latter was represented by Mr. Thomas F. Ryan, one of the most notable figures in New York financial circles, though his name has not appeared hitherto in connection with rubber.

Thomas Faulkner Ryan is one of the men who came to New York from the South, after the close of the civil war, in search of fame and fortune, and succeeded. He was only six years in rising from a small clerkship to membership in the New York Stock Exchange, and one of his biographers asserts that never in his 32 years in Wall street has his diary recorded failure. Mr. Ryan was born on October 17, 1851, in Nelson county, Virginia, his paternal ancestors having come from the north of Ireland in colonial days. On the other side he was of Scotch-Irish descent. Losing his mother at the age of five, young Ryan went to live with his maternal grandmother on the old family estate. At 15 he assumed control of the estate, and though he managed it as well as the disastrous consequences of the war permitted, he realized after two years that the effort was hopeless.

In 1868, therefore, he left home, almost penniless, but too proud to seek aid from family friends, and set forth to make his own way. Reaching Baltimore, he found scores of Southern lads in like condition, seeking employment of whatever kind. Day after day he walked the streets, applying in vain for work, until his last dollar was reached. Finally he called at the large commission store of John S. Barry, and was told to report for work the next day. But he calmly announced his intention of beginning at once, which he did. His salary was very small for two years, at the end of which time Mr. Barry, attracted by the young man's fidelity and persistence, offered him a place in a banking house which he was about to establish in New York.

During the two years following Mr. Ryan learned the first principles of finance. Having now attained his majority, he secured a partnership with a member of the New York Stock Exchange, and within another two years was able to buy a seat for himself. His capacity won quick recognition and he soon numbered among his business and personal friends many large Wall street operators, including Samuel J. Tilden, whose fortune was made largely through the reorganization of railways. During the next 10 years Mr. Ryan's firm carried through many large transactions.

In 1885 though retaining his Stock Exchange membership he retired from business, intending to rest. But before a year he had joined hands with William C. Whitney in consolidating New York street railroads into the now large Metropolitan system. Mr. Ryan next acquired control of the Milwaukee street railways, out of which he made a large

amount of money, and he was associated with others in building up the Consolidated Traction Co. of New Jersey. After the downfall of the Richmond Terminal Co., controlling a number of southern railways, he took an active part in reorganizing them in the Southern Railway system. He likewise reorganized the Central Railroad and Banking Co. of Georgia.

Space is lacking here for a complete list of Mr. Ryan's activities, but the last "Directory of Directors" showed him to be a director in 20 important corporations—financial, transportation, and industrial—including the American Tobacco Co., which he organized; the Bethlehem Steel Corporation, and the Consolidated Gas Co. of New York. Mr. Ryan is the first vice president and active directing head of the Morton Trust Co., and most active among those who control the National Bank of Commerce, the third strongest in New York. Last year he paid \$2,500,000 for control of the Equitable Life Assurance Society.

During the past month Mr. Ryan has announced his retirement from the boards of most of these corporations, except the leading financial institutions. He is probably the most active force in the trust company field in the United States. He has never been a manufacturer or a railway manager, but might best be described as a maker of market values for securities, being a master of speculation, of short term investment, and reorganization of corporate businesses. His fortune has been estimated as high as \$60,000,000, while others regard \$25,000,000 as nearer the mark.

It has been said of Mr. Ryan that his whole active life has been spent in Wall street, and there are no facts or opinions outside Wall street to judge him



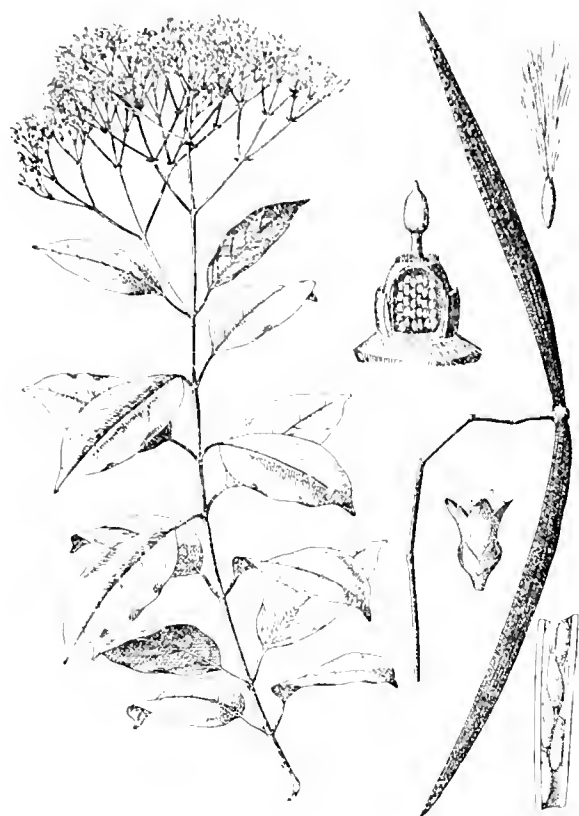
THOMAS F. RYAN.

by. He certainly does not take the public into his confidence, and the culmination of many of his plans has afforded the financial world a surprise. Mr. Ryan, however, does take an interest in other than financial affairs. He has been active since 1876, retaining a voting residence in his native state, where he has been mentioned in connection with United States senatorship. The ancestral home which he was unable to manage as a boy, he was able to purchase later, together with 10,000 surrounding acres. Mr. Ryan is a member of several leading clubs in New York, and is an active supporter of many charities. Mr. Ryan married the daughter of his first employer, and has several sons, who are expected to succeed him in various business activities.

Mr. Ryan recently became a director in the Continental Rubber Co., this being his first official connection with the rubber interest. But as the practical head of the Morton Trust Co., he had financed important transactions for the United States Rubber Co., and he is a director of the Industrial Trust Co., whose president is Colonel Samuel P. Colt, of the United States Rubber Co.

THE RUBBER RESOURCES OF FORMOSA.

WHILE in Japan, before the recent war, the Editor of THE INDIA RUBBER WORLD had the pleasure of visiting the Fujikura Insulated Wire and Rubber Co., at Tokio, the oldest and most important in this branch in the empire, and meeting the enterprising



"ECDYSANTHERA ROSEA"—A RUBBER PLANT OF THE SAME FAMILY AS THE FORMOSAN RUBBER.

manager, Mr. T. Matsumoto. The Editor having with him late information on the success attained in rubber culture in Ceylon and the Straits, Mr. Matsumoto became interested in the possibility of planting rubber in Formosa, an island formerly belonging to China and as yet not greatly developed. The following letter has been received from Mr. Matsumoto:

HENRY C. PEARSON, Esq., New York—*Dear Sir:* First I must ask to be excused for my long silence, since your visit to our factory. I have to thank you for your kind suggestions for the benefit of our works, and then shall write a few lines about my trip to Formosa.

When you visited our factory, in 1904, I asked your idea in regard to trying rubber culture on the island of Formosa, and I told you that I hoped to get a chance to go there to investigate the matter. But the war coming on, I was kept very busy, without any chance to leave our factory. At the beginning of this year, however, I received reports from a friend on that island, that rubber trees had been planted on trial in the botanical garden at Taipei, and also that wild rubber trees had been found in the Sinchu district. So I could not wait longer, but started from here on March 16, and spent one month on the island. The outlines of what I learned are as follows:

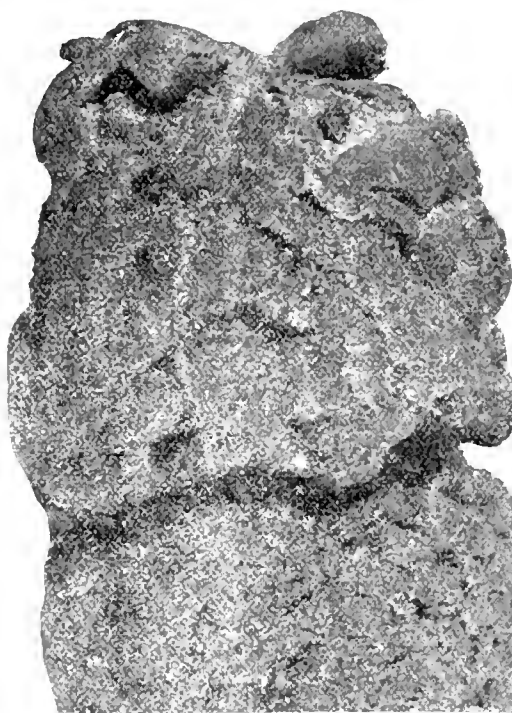
One small tree of *Ficus elastica* was sent from the Imperial Botanical Garden of Tokio, and planted in the garden at Taipei.

From this resulted 200 or 300 cuttings, which were sent to every district to be planted on trial. Those seen by me seemed to be growing in good condition, but the result is a question, as the trees are yet too young for tapping, being only 5 or 6 feet in height.

The wild rubber plants found in Formosa are vines, described as a species of *Ecdysanthera* (botanical name). The largest that I saw were 50 or 60 feet high, and 6 inches in diameter. The milk is very thick, and coagulates readily into a brown colored rubber of fine quality. When I visited the island the season was blossom time, and I enclose a specimen blossom and leaf.

These vines were discovered first at Taipei, near Bankai (a savage district, seven miles from the city of Happeo in the Sinchu district, and 70 miles from Kihing. Mr. T. Kawakami, an official of the bureau of agriculture, was very much interested. After investigation he found rubber everywhere in the forest near Bankai, in the northern part of Formosa, and he hopes to make that a leading production of the island. On the other side of the island we are trying to plant these vines by various methods, but are not very hopeful of success, since they do not seem to grow quickly. Hence I am considering a plan to plant the Pará rubber, or some other rubber tree, and am trying to get seeds from Ceylon.

In Bankai, which embraces about one third of Formosa, about 100,000 savages are living, and some of their tribes are very cruel. They like to kill natives and prize the heads very highly. In fact, a man's rank is settled by the number of heads they have. A young man will carry the heads he has when he goes to a girl to ask her to be his wife. There are two festivals each year, at seed-time and at harvest. Then they must offer a new head to their gods, from which these events are called head festivals. Therefore, before a festival, they will all go out for head hunting, carry-



SPECIMEN OF RUBBER FROM A NATIVE VINE IN FORMOSA.

ing food for five or six days, so that during these seasons the other natives are afraid to go too near Bankai. As a custom of expressing friendship, when a man gets a new head, he will invite his closest friends. He makes a hole in the head, which they fill up with wines, and then put their mouths together under the neck,



SAVAGE NATIVES OF FORMOSA.

where the mixture of wine and blood is dropping, and drink each other's health.

Naturally only a few men travel to the interior of Bankai, but the government is endeavoring to tame the savages. If we can get freely into Bankai we believe that enough rubber will be found in the forests to be a valuable production of the island. I hope to write again to report on our success before many years. Besides, I hope that rubber planting will succeed. I shall go again to Formosa this year to study for this work. I should like your idea in regard to the climate of Formosa as suited for rubber.

Our works are setting the new machines, which you kindly inspected and some others, in a new building, and expect shortly to be running them. Very truly yours,

T. MATSUMOTO.

Tokio, Japan, September 3, 1906.

* * *

Nor much is known in detail of the flora of Formosa, owing to the fact of the island having been so little explored by trained observers, though in the tangle of creepers and forests which cover the greater part of its area of 15,000 square miles it is possible that important rubber yielding plants may be found. The flora of the island, however, is known to be rich and varied, including some varieties—among them the camphor tree—not found elsewhere. The name Formosa was given to the island by the Portuguese, as a Latin translation of its native and Chinese names, both meaning *beautiful*. The island lies about 60 miles from China, between 22° and 25° north latitude, and about 600 miles from both Manila and Hongkong. It is about 225 miles in length, north and south, and has a population estimated as high as 3,000,000. Its people are of a mongrel type, exhibiting all the most unpleasant features of the Malay, Chinese, and Portuguese conquerors. Part of the is-

land is mountainous, but the remainder is of great fertility. The camphor trees are found in the central plateau, and at places tea, rice, and sugar are cultivated extensively. But the savage tribes, such as Mr. Matsumoto has described, have retarded exploration and development. Formosan weather is most uncertain. The rainfall varies greatly in different parts of the island, being very heavy at places. Certain sections are visited by destructive typhoons. The climate is tropical, though the higher mountains are snow covered in winter. As the result of the war a few years ago between China and Japan, Formosa came into the possession of Japan, the government of which has manifested an intelligent interest in the development of its resources—something which China had never been concerned about.

* * *

Last summer the United States consul at Tamsui, Formosa, Mr. Fisher, made a report to his government on the existence on that island of a native rubber producing vine, which had been designated by Hayata and Kawakami as *Ecdysanthera utilis*. He sent to Washington a specimen of rubber produced from it, a photograph of a portion of which has been made for THE INDIA RUBBER WORLD, the result being given in connection with this article. Little has been published regarding the genus *Ecdysanthera* as rubber producing plants, but in a recent work ("Le Caoutchouc en Indo-Chine") Dr. Spire presents a study of several species of this genus found in French Indo-China, some of which are of considerable value as sources of rubber. No less than nine species of *Ecdysanthera* are reported on, though *E. utilis*



PEACEABLE NATIVES OF FORMOSA.

does not appear in the list. But since their general characteristics are the same, we have reproduced (on the preceding page) from Dr. Spire's book an illustration of *E. rosea*, showing the leaf formation, flower, and elongated seed pods. The export of rubber from Indo-China has reached in a single year 330 tons, most or all of which is the product of vines, including the species here named. It is of no little interest to learn that similar rubber plants exist in Formosa.

THE RESIN CONTENT OF INDIA-RUBBER.

THAT the percentage of resin contained in a particular kind of crude rubber does not always serve as a correct criterion by which to judge its commercial value is asserted by Lyman M. Bourne, of the Eastern Rubber Co., New York. At the same time, when two samples of the same kind of rubber show a different resin content, the sample containing the lesser amount of resin will give the stronger and more elastic vulcanized compound. On this account, says Mr. Bourne, it must be of interest to know that the resin content of nearly every kind of India rubber has increased during the past two or three years.

Mr. Bourne has prepared a table of analyses, repeated below, which show such increase, when compared with previously published results. The method employed was as follows: Two or three grams of the sample were weighed out, cut into small pieces, and dissolved in benzol. From this solution the rubber was precipitated by ethyl alcohol. The mixture of benzol and alcohol was then decanted as closely as possible through a silk filter and the precipitated rubber washed several times with alcohol. The benzol alcohol mixture, carrying the resin in solution, was evaporated to dryness in a weighed flask on a water bath and dried, as was also the precipitated rubber in vacuum at 80° C. for two hours.

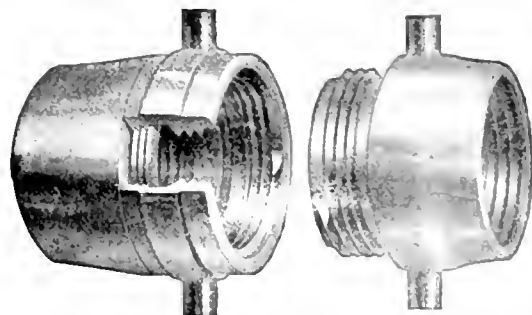
Mr. Bourne's table follows:

GRADES.	No. lots analyzed.	Per cent Rubber.	Per cent. Resin.	Approx. Shrinkage.
Addah niggers, Congo.....	1	93.3	9.7	40
Arumini, Congo.....	2	91.1	8.9	6
Assam prime, India.....	6	84.2	15.8	25
Assare, Brazil.....	1	91.1	8.9	
Benguela, Benguela.....	2	88.7	11.3	25
Borneo, 1st, Borneo.....	1	88.2	11.8	38
Borneo, 2nd, Borneo.....	2	89.7	19.3	45
Borneo, 3rd, Borneo.....	1	79.3	20.7	30
Brazilian strips, Brazil.....	1	72.0	28.0	20
Cameroon, Africa.....	1	87.5	12.7	20
Caucho ball, Brazil.....	24	90.0	10.0	33
Caucho sheet, Brazil.....	14	91.0	9.0	38
Caucho slab, Brazil.....	13	86.8	13.2	33
Conakry, West Africa.....	1	93.3	6.7	15
Congo, lower Congo.....	2	87.3	12.9	40
Congo, upper Congo.....	7	86.3	13.8	16
Congo, French Congo.....	2	90.5	9.5	33
Congo, black, Congo.....	1	84.4	15.6	
Congo, Wamba, Congo.....	1	84.4	15.6	60
Costa Rica, Costa Rica.....	1	87.0	13.0	17
Equateur, 1st, Congo.....	1	92.9	8.1	
Ecuador strip, Ecuador.....	1	90.4	9.7	20
Gaboon lump, West Africa.....	1	27.6	72.4	35
Gambia, 1st, Senegambia.....	1	88.8	11.2	42
Gold Coast lump, Africa.....	5	72.7	27.4	35
Guayaquil strip, Ecuador.....	7	89.8	10.2	10
Kassai, black Congo state.....	1	88.4	11.6	10
Kassai, red, Congo.....	2	88.9	11.0	30
Kassai, red, 2nd, Congo.....	1	94.6	5.4	
Kassai, red, 3rd, Congo.....	1	89.0	10.0	25
Lahou twists, Congo.....	1	9.76	8.4	27
Lagos lump, Lagos.....	1	93.3	6.9	10
Lopori, 1st Congo.....	1	92.6	7.4	10
Lopori, 2nd Congo.....	2	62.1	37.9	20

GRADES.	No. of lots.	Per cent. Rubber.	Per cent. Resin.	Approx. Shrinkage.
Madagascar.....	1	90.0	10.0	12
Manicoba sheet, Brazil.....	1	90.0	10.0	10
Mangabeira, Brazil.....	1	83.5	16.5	43
Massai, red, Congo.....	2	93.6	6.4	
Massai, pink, Congo.....	1	90.1	9.9	
Mexican, <i>Castilloa</i>	1	88.7	11.3	12
Mexican Guayale.....	3	74.0	26.0	25
Mongala, Congo.....	2	87.5	12.5	10
Mozambique.....	1	75.8	24.2	60
Niger paste, Africa.....	1	14.2	85.8	25
Para, fine, Brazil.....	25	90.6	9.4	17
Para, Ceylon, fine.....	3	97.5	2.5	
Para, medium, Brazil.....	9	95.2	4.8	17
Penang Malaya.....	1	80.9	19.1	38
Penang, white, Malaya.....	1	85.6	14.4	38
Penang, prime, red.....	1	90.3	9.7	9
Penang, white.....	1	85.6	14.4	38
Peruvian tails.....	2	93.0	7.0	38
Pontianak, Borneo.....	7	25.0	75.0	60
Shebbro, West Africa.....	2	92.9	7.1	25
Shebbro, Conakry, W. Africa.....	1	90.2	9.8	20
Twists, prime, West Africa.....	1	95.1	4.9	20
Twists, 1st, West Africa.....	1	89.5	10.5	20
Twists, 2nd, West Africa.....	1	92.7	7.3	20
Tuno gum.....	1	20.1	79.9	
Uele, Congo.....	2	95.1	4.9	11
West India slab.....	1	74.1	25.9	50

EUREKA "NON CROSS" THREAD COUPLINGS.

THE couplings used with fire hose are hardly of less importance than the hose itself. In this connection may be mentioned the "non cross" thread with which the hose made by the Eureka Fire Hose Co. (New York) is equipped—a feature that is receiving much attention. All Eureka couplings are made of bronze, and unless otherwise desired, all the threads are of the non cross variety; that is, they are cut off at the outer end to facilitate coupling and to prevent



the possibility of the threads being crossed when the hose connection is being made. These couplings are made with threaded swivels, which consist of four annular threads, cut male and female, in the inner and outer parts of swivel respectively. These threads are standard 60 degrees and of full depth and give a greater wearing surface than the ordinary flanged lip swivel joint, while their V shape prohibits any possibility of jamming, as the tendency of the joint is to free itself. The threads, swivel, washer recess, and water-way of the Eureka couplings are made at one setting of the part in a lathe, and are consequently perfectly true to each other. Adequate expansion pressure may be applied without the slightest injury, and they may be attached with an ordinary expander without the use of any special appliances such as many other couplings require.

THE growth of the use of motor buses in England is greatly stimulating the manufacture of solid rubber tires. The Dunlop company are now making a specialty of tires of this class.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By J. F. Barker, Cambridge.

I have been asked to write a few lines on the subject of the rubber trade in Great Britain, and I have endeavored to do so. I have been asked to do so by the Rubber Manufacturers' Association, and I have endeavored to do so. I have been asked to do so by the Rubber Manufacturers' Association, and I have endeavored to do so.

The rubber trade in Great Britain is a very small one. It is a trade which is not very well known, and it is not very well understood. It is a trade which is not very well known, and it is not very well understood. It is a trade which is not very well known, and it is not very well understood.

There are some nine years ago, and is still the same. It is a trade which is not very well known, and it is not very well understood. It is a trade which is not very well known, and it is not very well understood. It is a trade which is not very well known, and it is not very well understood.

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There is no other analysis; but about this analysis and that is that the figures for the nitrogenous matter are identical with those given in Parlay's analysis of Mexican latex and quoted by Hancock in his book. Is it possible that no change has arisen and that Parlay has been misled with regard to the amount of aluminum in Parlay latex—that is, if he ever made a complete analysis of Parlay latex, at any rate, I have not at the time the opportunity of looking. This point, however, I agree with Weber that the figure is suspiciously high. As, else, it gives the aluminum as 2.0 per cent, though as he does not state the source of the latex it is not of firmness. Seeligmann lumps the aluminum and mineral matter together as equal to 2.0 per cent, which Weber says is altogether too vague. Weber himself does not seem to have given any figures, which is a pity, while my own analysis showed that the aluminum matter amounted only to .5 per cent in the Parlay latex. As the high quality of the Parlay rubber is due, to some extent at any rate, to its freedom from such impurities it seems of importance to know what the figure really is. I am not acquainted with any other figures than those quoted though I imagine that others must have been obtained in recent years.

In all rubber solution contained the same percentage of rubber, and that of the same grade or quality, the price of the product is likely different making the price of the product more nearly uniform. A glance, however, at the varying prices quoted indicates that the above conditions do not obtain, and indeed it is now matter of common knowledge that the most uniform standard of strength and quality has given way in these latter days of increased application and increased competition to a variety of standards set up by individual manufacturers. Of course this procedure may not be without merit. It may be taken that the strongest solution that can be made conveniently for ordinary use contains 10 per cent of rubber. This strength is required for certain purposes. The British war office for instance insist on at least 8 per cent of rubber in the solution supplied to the War Department at W. W. Such strength, however, is quite unnecessary for use in connection with tire repairs, and 5 per cent of rubber being quite enough. Solution as low as 2 per cent is regularly sold as is also some which has its bulk filled up by addition of resin. But these cannot be recommended as being really in the interests of the rubber trade. African rubber has largely taken the place of the Parlay rubber in late years for boot making, and where the price is so low a corresponding reduction in price there is little to be said against it. Now that solution making has passed largely out of the hands of the regular works into those of the small and untrained repair and outfit dealers, it is not surprising that many alterations in procedure are to be noted. One of these is the use of re-processed rubber, not that which is produced from vulcanized goods but which is left over from the process of manufacturing, if a very waste, and the other is the use of waste, the felt cuttings from the making of rubber shoes, the felt being filled with pure rubber.

[illegible]

THE COTTON DISCONTINUATION

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1010 spectrophotometer. The concentration of chlorophyll was expressed as $\mu\text{g mL}^{-1}$ of the sample.

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Lichtenthaler and Whistler (1973). The total chlorophyll content was determined by the method of Arar and Cook (1980). The carotenoid content was determined by the method of Lichtenthaler and Whistler (1973). The total carotenoid content was determined by the method of Arar and Cook (1980). The total protein content was determined by the method of Lowry et al. (1951). The total lipid content was determined by the method of Bligh and Dyer (1959). The total carbohydrate content was determined by the method of Dubois and Gilles (1950). The total nucleic acid content was determined by the method of Burton (1956). The total ash content was determined by the method of AOAC (1990). The total moisture content was determined by the method of AOAC (1990). The total dry matter content was determined by the method of AOAC (1990). The total organic acid content was determined by the method of AOAC (1990). The total alkaloid content was determined by the method of AOAC (1990). The total flavonoid content was determined by the method of AOAC (1990). The total phenol content was determined by the method of AOAC (1990). The total tannin content was determined by the method of AOAC (1990). The total saponin content was determined by the method of AOAC (1990). The total sterol content was determined by the method of AOAC (1990). The total glycoside content was determined by the method of AOAC (1990). The total alkaloid content was determined by the method of AOAC (1990). The total flavonoid content was determined by the method of AOAC (1990). The total phenol content was determined by the method of AOAC (1990). The total tannin content was determined by the method of AOAC (1990). The total saponin content was determined by the method of AOAC (1990). The total sterol content was determined by the method of AOAC (1990). The total glycoside content was determined by the method of AOAC (1990).

RUSSIAN RECLAIMED RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I noticed in your issue of October 1 (page 23) an article on reclaiming Russian galosh waste.

If it is of any interest to your correspondent, I beg to inform you that I am the sole representative of the Firma "Prowodnik" in Riga, Russia, for the sale of their reclaimed galoshes, and their daily output of this article is 30 tons. The plant necessary for this large output is very up to date, and is constantly being increased. Their requirements for this branch necessitate about three quarters of the whole of the old galoshes collected in Russia, and the centers where Russian galosh waste is obtainable.

The grades this firm make are as follows: (1) Extra prima, made from pure detachable uppers and soles; (2) prima, made from clean old galoshes, free from canvas; and (3) second quality reclaimed, made from a mixture of old galoshes and mechanical goods.

My firm guarantees that neither of the three kinds contain any admixture of minerals, oil, or chemicals, and that the same is clean and unadulterated.

As I have stated above, this output, besides the amount reclaimed by other factories in Russia for their own requirements, exhausts any surplus of old galoshes, the export of which has become somewhat difficult owing to the export duty which has been placed thereon by the Russian government. Therefore, the suggestion of your correspondent to start a works with a view to reclaiming old galoshes in Russia does not seem very feasible.

There is, I believe, an import duty on reclaimed rubber in America of about 30 per cent. *ad valorem*. Your correspondent's calculation for the cost of the erection of a reclaiming factory in Russia is very far below the actual cost, which would be at least 7 to 10 times the amount mentioned by him.

At the present time the reclaimed being made by the Firma "Prowodnik" is being largely used by English and continental firms, who have thoroughly satisfied themselves as to its merits, as the mere fact of its being guaranteed to be made from nothing but galoshes, and the reputation which the Firma "Prowodnik" has now gained for the excellency of the various articles they manufacture, is an additional safeguard that they are not likely to jeopard their reputation in any way by manufacturing or supplying an inferior article, and thereby risking the receipt of the large orders which they receive, and must obtain, in order to keep employment for the 7000 work people which constitute at the present moment the number at their works. JOHN LANG.

London, October 1, 1906.

THE importation into the United States of "reclaimed rubber," the product of rubber scrap, is subject to duty at 30 per cent. *ad valorem* as a manufacture of rubber, not specially provided for, under paragraph 449 of the Act of July 24, 1897.

RUBBER PLANTING IN SOUTH AFRICA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am a farmer here and a reader of your paper, and I hope you will kindly give me some information about rubber. My fellow farmers and myself are much exercised in our

minds about rubber. We would like to go in for it, but we do not know what to plant.

In the northern parts of North Eastern Rhodesia there is *Landolphia* rubber (vines) growing naturally, but it seems that the artificial cultivation of vines is a process far too slow, and I may add, too uncertain, to suit us. Tree rubber seems better, but then one authority tells us that *Funtumia elaeagnifolia* (Lagos rubber) will do here, and another authority tells quite the contrary. Ceará rubber (*Manihot*) grows here very well almost in any soil and does not require much care, but on the other hand it does not seem a practical proposition, as nobody has yet succeeded in doing any good with the Ceará tree. Perhaps we do not know how to go about it, both as for the way of collecting the latex and the proper season to choose. It seems to me that neither the Brazilian method of tapping nor the one used by the natives in getting rubber balls from the *Landolphia* vines will do for Ceará, but if somebody would invent a process, mechanical and chemical, by which the young Ceará tree could be cut down, passed through a roller to get out the latex just as it is done with sugar cane, and the juice could then be so treated as to extract from it all the available rubber contained in it. Then our prospects would be very bright. Two year old trees could be cut down, and an equal area at once planted afresh, so that the supply would be continual or at any rate biennial.

None of us in this far away corner are in a position to keep up with the latest notions in rubber planting and latex treating and should therefore feel exceedingly obliged to you, Sir, if you would condescend to give us some valuable advice.

I enclose herewith a climatological table referring to our district, which may be of use or interest to you. With best regards, I am, yours faithfully,

A. PAOLUCCI.

Sengallia Farm, Fort Jameson North Eastern Rhodesia, South Africa, October 12, 1906.

[It is all probability our correspondent's planting must be done either with *Funtumia* or Ceará rubber, the rainfall in his region being too light for *Hevea* or *Castilloa*. The suggestion as to annual crop production of Ceará is of interest. Quite a number are at work now on this line, though so far nothing valuable has resulted. Ultimately, however, this doubtless will be found practicable. As for planting vines (*Landolphia*), the experiments thus far at the botanical gardens have been failures.—THE EDITOR.]

RATS IN RUBBER. —Manufacturers of wire netting should increase their trade with rubber growers in Ceylon and elsewhere, says *Home and Colonial Mail*. Rats are a serious nuisance, as they attack the roots of the young rubber trees. The method of the Ceylon Tea Plantations Company, in using coarse wire netting round the steps, is being followed by other growers. It not only saves the rubber from the rats, but keeps the trees, when planted among tea, from being damaged by weeder and pluckers.

A BRITISH novelty in the way of a fire appliance is a cradle for holding hose in position ready for use in case of emergency. When a fire breaks out a valve is opened and the hose is unwound by gripping the nozzle and pulling it toward the spot where it is to be used. As the coil unwinds the water fills the hose.

THE PRODUCTION OF PLANTATION RUBBER.

RUBBER MACHINERY AT PERADENYA.

AT the Ceylon Rubber Exhibition a feature on the program which proved of exceptional interest was entitled "A Demonstration of Rubber Machinery," in which Mr. Herbert Wright operated or explained the use of each piece of mechanism on show for facilitating the preparation of rubber from latex. This did not embrace rubber tapping tools which were publicly tested, also by Mr. Wright, on another day, on rubber trees in the garden at Heneratgodla.

Mr. Wright began with Macadam's latex strainer, pouring into it a pailful of latex charged with mechanical impurities. The latex flowed into a bag to which a centrifugal motion was given, and the clean latex issued through a pipe at the side, while the impurities remained in the strainer cloth. Considerable quantities of latex could be handled in 30 to 60 minutes. In this experiment, 20 gallons were strained in 3 minutes.

Next came Brown & Davidson's settling tank, designed for the accumulation of latex in large quantities. This was provided with a drip tin by which a few drops per hour could be added of dilute ammonia or formalin, this being thoroughly mixed with the latex through the turning of plates within the tank. The machine used in Mr. Wright's demonstration had been filled eight days before with latex, which was still in a good state for coagulation. Latex from trees of varying ages, collected on different days or the same day, can be mixed in the same tank, with the result that rubber of a uniform standard is prepared. The same apparatus may be used for smoking rubber, the fuel used being wood with creosote added, the smoke being so introduced as to come into close contact with the latex.

The demonstrator now used the Michie Colledge machine, by which latex was coagulated in 10 minutes. After the machine is set in motion there is originally a centrifugal and subsequently a centripetal motion incurred. But it seems necessary, in order to effect coagulation, to use some acid. Mr. Wright pointed out there was also to be seen at the exhibition rubber coagulated by the ordinary method of putrefaction. The latex is allowed to accumulate. It undergoes decomposition. Acids are formed and the rubber clots or coagulates.

There was an extensive display of rubber washing and macerating machinery. The Federated Engineering Co., exhibited two sorts of rollers; Brown & Davidson four machines, on different lines; and Walker, Sons & Co., a small machine. In all these machines the principle is to subject the rubber to a tearing and stretching process, and while in that condition, to wash it with a strong current of water, either hot or cold. When it has been thoroughly washed the rubber may be passed between other rollers and turned out in crepe and other forms. All the various machines referred to were put in motion at one time.

A machine for expressing moisture from rubber, exhibited by Walker, Sons & Co., was next operated. This is practically a mangle placed horizontally. Once the moisture is practically expelled, the complete drying can be effected (1) in a curing house, (2) in vacuum chamber, or (3) in a press.

Specimens of rubber were prepared by different processes, including two macerating specimens of 1 lb. each, which were exhibited so successfully by the Lamahongueta. Practically Mr. Wright delivered a lecture, during which latex collected during the preceding 24 hours was put through all the various processes described, beginning with the centrifugal straining machine and ending with the making of a "block" of rubber.

TABLE OF PRIZES.

Best implement or series of implements for tapping Para trees (21 competitors) :—(a) Parings : Gold medal, E. D. Bowman; silver medal, C. O. Macadam. (b) Prickings : Gold medal, W. T. Miller; silver, E. D. Bowman.

Best instrument for tapping *Castleia* trees (12 competitors) : Gold medal, C. O. Macadam.

Best instrument for *Ceara* trees (13 competitors) : Silver medal, C. O. Macadam.

Best instrument for rambone (*Flouy*) trees (8 competitors) : No award.

Best instrument for tapping high parts of trees : No award.

Best apparatus for assisting the flow of latex : Silver medal, Brown & Davidson.

Best apparatus for centralizing latex from separate trees : No award.

Best apparatus for storing latex before coagulation : No award.

Best sample of preserved liquid latex : No award.

Best method of coagulating latex : Gold medal, Walker, Sons & Co.; silver medal, W. J. Bird (Duckworth estate).

Best method of preventing putrefaction of rubber : Gold medal, Brown & Davidson (smoking apparatus).

Best apparatus for recovering rubber from bark shavings, or for macerating rubber plants : Gold medal, Brown & Davidson; silver, Federated Engineering Co.

Best rubber washing machine : Gold medal, Brown & Davidson; silver, Federated Engineering Co.

Best method of protecting rubber trees during tapping : No award.

Best plan for curing house : Gold medal, Kelway Bamber.

Best method of packing rubber for export : No award.

Best method of vulcanizing, hardening, or coloring rubber : Gold medal, Kelway Bamber.

Preparation of block rubber : Gold medal, Brown & Davidson; Strainer : Gold medal, C. O. Macadam; gold medal, Kelway Bamber.

THE STRENGTH OF PLANTATION RUBBER.

In a lecture at the Ceylon Rubber Exhibition Mr. C. E. Smithett, one of the judges sent out from London, said that the high price paid for plantation rubber in the London market was due to its purity. But in point of strength fine hard Para was still superior to the plantation product. How that strength could be obtained without reducing the standard of purity was a question for the planters to settle. But the question struck him. Were they tapping their trees too early? He knew there was a desire to get into the market as soon as possible, and he feared that tapping at 6 years and even less might be a mistake. Forest rubber trees on the Amazon were not tapped until 30 years of age, and at this exhibition some of the rubber which received the highest awards was from trees from 10 to 15 years old and upward. Bad reputations were hard to be got rid of, and it was not

be well to let plantation rubber get the reputation of being weaker than fine hard pure Pará. Then possibly there was a loss in strength from the extraction of too much moisture in plantation practice.

The point was made by Mr. Smithett and other speakers that rubber manufacturers proceed slowly in taking on new grades of rubber—there are hundreds of grades in the market—it being necessary for them to experiment extensively in order to arrive at the proper mixings for kinds of rubber which they have not used hitherto. When a manufacturer has decided to use a new rubber he wants to be able to obtain regular supplies of a given quality, and this has not been possible hitherto with plantation rubber, though the quantities now coming to market are larger. If, as suggested, mature trees are necessary for the production of rubber of standard strength, it will still be a few years before large supplies of rubber of this type are available. The question was discussed of keeping separate, in shipping, rubber from trees of different ages. The suggestion that the latex from different aged trees be kept separate was met by the remark that even a little latex from mature trees mixed with that from young plants might be beneficial.

Dr. Willis said one lesson learned from the exhibition was that rubber from old trees was better than rubber from young trees, and the question was whether they were not tapping too young. Many people agreed that they did this at present, but he was afraid it was impossible to resist the temptation to tap young trees, because at the present moment their rubber was sold not by reason of its quality, but as Ceylon rubber. If the first sample was good, generally all the other samples sold at the same price. That could not last, when they sent large quantities to the market. Then it would be found that rubber from older trees would fetch more than rubber from the young ones, and it became a serious question whether they should not leave the trees a year older before tapping.

PLANTATION RUBBER IN BLOCK FORM.

It is the opinion of Mr. Charles Devitt, one of the three London judges at the Ceylon Rubber Exhibition, according to *The Times of Ceylon*, that the new block form of rubber is the best that has been exhibited. It has all the advantages which prevent liability to tackiness, and other favorable aspects. But he does not think that, when a fairly large number of planters go in for that form, the premium of 2 pence which the block form is now getting can continue. Nor does he see any reason to anticipate any fall in the price of sheet or biscuit as a result of the preference for block.

Dr. John C. Willis, director of the Ceylon royal botanic gardens, in an address at the exhibition, pointed out some advantages of the block rubber. The Lanadron estate block which carried off the honors at the exhibition weighed 25 pounds, and it occupied about half the space 25 pounds of biscuits or sheets would, and it would pack very much more readily. Biscuits having round edges, a lot of space was wasted in packing. The block form meant a saving of one-half in freight charges. Furthermore, the block, once it was made, exposed a very small surface to oxidization, and consequently was less liable to damage. The inside of the block was completely protected against outside influences, and oxidization could only take place on the few feet of surface exposed, whereas in biscuit and sheet they were exposing the maximum surface.

CONTINENTAL COMMERCIAL CO.

[Plantations at Tolosa, state of Oaxaca, Mexico. Office: 614 Fullerton building St. Louis, Missouri.]

This company is the result of combining several Mexican properties owned by St. Louis capitalists—the sugar mill of the Continental Sugar Refinery Co., and five plantations devoted to rubber, coffee, and sugar. The land involved amounts to 5306 acres, including some of the rubber estates first formed in Mexico. One company absorbed was the *Jumiapa Plantation Co.*, which began operations at the first of 1901. All the officers and directors of the consolidated company were on the board of the Jumiapa, and the original plantation manager, B. J. Tunnell, is in charge of the consolidated estates. Another was the *Lolita Plantation Co.*, successor to the Missouri Coffee and Rubber Co., formed in 1899 to develop the "Crittenden" tract. A third was *The Oaxaca Coffee Culture Co.*, organized in 1897. Two other properties are the "Montverde" estate, on which some rubber has been planted, and the "Pittsburg", devoted to sugar cane. The location is near the Tolosa station on the Tehuantepec railway. A recent report mentioned 856,173 coffee and 427,344 rubber trees standing, with plans to increase the number of each to 1,000,000. There are also 500 acres in cane, also to be increased. The Continental company is capitalized at \$2,500,000. Charles F. Haanel, president; A. H. Hoffmann, vice president; W. A. Brander, secretary; A. R. Verdier, treasurer.

MEXICAN RUBBER PLANTING NOTES.

THE annual report of The Oaxaca Association (Chicago) for the fiscal year ending April 30 last reports 400,000 rubber trees, 4 to 9 years old, on their "Buena Vista" estate, in Vera Cruz. The first rubber tapping occurred during the year, on a small scale, but with satisfactory results. Considerable additional planting was planned for this year.

Palenque Plantation and Commercial Co., whose records in San Francisco were destroyed in the great fire, are now located at No. 25 Saint Mungo building, in that city. The company are proceeding actively with the development of their plantation in the state of Chiapas, Mexico, on the Rio Michol. The company date from September 22, 1905, having been incorporated with \$1,000,000 capital authorized. Mr. J. V. Brenchley, some time with Mr. Harrison, of "La Zacualpa," is plantation superintendent.

Joliet Tropical Plantation Co. (Joliet, Illinois) state that their plan of financing has kept the company in funds for developing the plantation in Vera Cruz, from the beginning. They have 500 acres planted to rubber, now in good condition, and 800 acres in pasture, stocked with 550 head of cattle.

The Batavia Co., Inc. (Milwaukee, Wisconsin) report 100 acres cleared on the *hacienda* "Batavia," in Oaxaca state, Mexico, of which 646 to date have been devoted to rubber, 240 to coffee, and 120 to pasturage. The oldest rubber was planted 6 years ago by the former owner of the land, Mr. Alfredo Oest.

The fifth annual inspection report on the San Miguel Plantation Co.'s (Chicago) estate, in Vera Cruz, by Mr. H. G. Filiatreau, elected inspector by the shareholders, is accompanied by an album of 24 excellent half tone views from photographs, taken on the property. Mention is made of 400 acres planted to rubber (some dating from 1902) and 450 acres to sugar cane.

THE ACRE AS A RUBBER PRODUCING REGION.

AWAY up, on the southwest expanse of the upper Amazon valley, bounded by Brazil, Peru, and Bolivia, and ramified by a labyrinthic river system which has no equal, there lie, embracing many thousands of square miles of imposing and somber forests, the richest and most extensive rubber regions in the world. This is particularly true of that large extent of territory lying southeast of the *regio de los bosques*, bounded by the Amazon river on the north, the Javary on the west, the Ucayali on the southwest, and the Madre de Dios on the extreme southwest, from its source to beyond its juncture with the Beni or up to the Madeira river, and which is known as *O Acre*, now forming, under three political divisions (prefectures), the Brazilian Federal territory of the same name.

Large as the production of rubber from the middle and lower Amazon valleys has been up to the present day, it will not stand the least comparison with the immense yield which the vast forests along the principal rivers and numerous affluents and tributaries in the Acrean regions are alone capable of rendering.

What makes the southern regions of the upper Amazon valley, particularly those in and about the Acre, so valuable as a source of inexhaustible supply of the gummy milk, is not so much the unparalleled vast area of rubber producing forests itself as the astonishingly large number of rubber trees—capable of yielding an uncommonly large supply of the highest grade of rubber—contained within almost any given area in the territory. Next, but not least in importance, is the fact that its circumambient river system, owing to its peculiar ramifications, renders easily accessible from almost all points any tract of forest one may choose for operations, which is not the case in the less productive rubber forests of the middle and lower valleys.

As the major part of the great rivers and their principal affluents in the upper Amazon valley are navigable—many of them for hundreds of miles—to smaller or larger steam craft during the greater part of the year, the receiving of supplies and the shipping of rubber do not constitute the serious problem which would be encountered in the exploitation of rubber forests available to-day elsewhere in the Amazon valley, whether in Brazilian, Peruvian, or Bolivian territory, barring the immense and rich forests of northwestern Matto Grosso, in the Guapore valley, few of which have so far been explored.

The Acrean and other southwestern regions offer, besides, two other advantages of importance to the more economical and thorough development of the business of extracting rubber which greatly contribute to the fame claimed for that territory in bearing such a relation to the world's future production of rubber as does to-day Kimberley to that of

diamond mining: these are salubrity and short flood seasons. As to the first, owing to the higher level of the regions, the humidity and dampness are not excessive, as in the middle and lower valleys, and the heat is likewise much less intense. In fact, the humidity and heat prevailing in the southwestern zones are not any worse than the hot, sultry weather experienced in New York during a "hot wave."

As to the dreadful yellow fever we hear so much about, and which people have come to associate with the Amazon river, there is none lurking in those forests to claim the first white man venturing there, as some "tourists" and "book reader travelers" would make us believe. The little yellow fever there is is confined to the cities in the lower valley. If malarial and other fevers—as well as *beriberi* and such other maladies as will attack a weak and debilitated system—do claim some victims among the colonies of *caboclos* or half breed

Indian trappers in a *seringal* (rubber estate), it is principally due to the miserable conditions of sanitation, habitation, and alimentation existing under the administration of the average owner himself. These evils could easily be remedied through the application of modern methods of exploitation.

The Acrean and other southwestern regions are, as a whole, salubrious, and this is an essential requisite to the development of the rubber industry upon modern and extensive lines, such as only foreign capital and enterprise can successfully accomplish. And, as to the second of these additional advantages, it is obvious that the duration of the flood season must have an important bearing upon the total crop of a *seringal*. During the winter or rainy season, the rising rivers will flood the forests, and all operations on the *serin-*

gal must remain at a standstill until the heavy rains have ceased and the waters subsided.

In the lower and middle valleys the rainy season begins in November and terminates in March, and in the upper valley it commences in September and ends in December, whereas in the southwestern regions the rains take place from June to October. The copious rains attending the winter there are sufficient in themselves to cause a cessation of all the labors in a rubber estate; and as both the rainy season and the duration of the floods are considerably lighter and shorter in the southwestern expanse the upper Amazon valley than in the middle and lower valleys, the Acrean and all adjacent territory lying south and southeast of it offers a much longer working season, which means more money to the rubber operator.

This apparent stagnation in the rubber industry would undoubtedly have continued to exist indefinitely and made its consequences the more lamentably felt, had it not been for the great impetus given it by the opening up and exploring of the Acre territory and the consequent exploitation



CORONEL THAUMATURGO DE AZEVEDO.

which are, generally speaking, rich rubber forests, as well as the semi-cultivated lands lying south and southeast of the Amazon. The vastness of these forests, and the fact that they are under the control of Brazilian, Peruvian and German interests as well as German, English and American. This great beginning—whichever it may be—points the way towards internationalizing the Amazonian rubber industry is largely due to the efforts and foresight of Governor Thaumaturgo de Azevedo.

While still governor of the state of Amazonas, several years ago, General Azevedo foresaw the great future commercial value of the Brazilian Amazon valley to the rubber world, and he determined to devote all his energies and activities to bringing about the development of a territory which is destined to play an important part in the commercial, industrial and political expansion of the South American continent. It was General Thaumaturgo de Azevedo, while at the head of the Commission of Limits with Bolivia, asserted Brazil's rights over the disputed territory of the Acre, on the basis of the weak and faltering policy of his government. It was he who, in 1890, took Rio Branco, as well as the Government of Nary, Brazil, to her possession, and the valley of the Acrean territory. The Acre has proved to be well worth it. Brazil the expense she has incurred in indemnities and military expeditions, and in the complicated and serious disputes she has had over boundary matters with Bolivia on the one hand, and with American and English capitalists on the other, respecting the rights of exploitation of certain portions of the Acrean territory then under controversy between Brazil and Bolivia. The latter, as will be remembered, granted large concessions to an Anglo-American syndicate to which Brazil objected on grounds she deemed legal, as well as necessary for self preservation. In so far at least as her rights over the great Amazonian waterways were concerned. This was one of those incidents to be greatly lamented inasmuch as the lack of judgment and foresight on the part of Bolivia, coupled with the overcautiousness displayed by Brazil, destroyed one of the greatest opportunities offered for the eventual development of the rubber and other rich industries of the Amazon valley upon such an extensive scale and upon such lines of operation as would have immensely benefited both countries financially, commercially and politically.

No doubt, however, other and possibly greater opportunities may yet present themselves through individual effort and enterprise. Such is the world's pressing demand for rubber that means must and will be devised for utilizing the immense resources of the Acre.

THE RUBBER HANDLED AT MANAOS.

THE following statistics of the arrivals of rubber at Manaus from all sources during the calendar year 1905 are supplied by the Associação Commercial do Amazonas—all in kilograms.

Arrivals from	1905	1904	1903
Amazonas	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450
Manaus	1,257,450	1,257,450	1,257,450

Total arrivals from all sources during the calendar year 1905 1,257,450 kilograms.

SOURCES OF RUBBER PRODUCTION OF AMAZONAS.

RIVERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
Rio Purus	3,633,204	152	1,257,450	1,324,740	5,560,376
Rio Jurua	3,633,204	152	1,257,450	1,324,740	5,560,376
Rio Madeira	1,017,000	152	1,257,450	1,324,740	2,180,082
Rio Solimões	774,145	152	1,257,450	1,324,740	2,823,307
Rio Javary	774,145	152	1,257,450	1,324,740	2,823,307
Rio Negro	447,471	152	1,257,450	1,324,740	2,014,333
Lower Amazon	5,632,322	152	1,257,450	1,324,740	7,560,376
Rio Jutahy	54,030	152	1,257,450	1,324,740	2,734,405
Rio Japura	23,064	152	1,257,450	1,324,740	2,979,756
Rio Içá	12,870	152	1,257,450	1,324,740	2,734,405
Rio Branco	1,550	152	1,257,450	1,324,740	2,734,405

Total, 1905, 10,522,352 kilograms. Total, 1904, 10,522,352 kilograms. Total, 1903, 10,522,352 kilograms.

It will be noted how small is the proportion of medium *sergipe* rubber in the arrivals at Manaus. The proportion becomes much larger, however, after the classification at that port, as will appear from the following details of exports from Manaus during 1905:

RUBBER PRODUCED IN AMAZONAS STATE.

To—	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York	4,237,352	1,226,853	1,117,171	1,314,487	7,695,863
Liverpool	3,375,822	913,331	704,591	1,344,733	6,041,157
Havre	521,935	55,429	78,517	2,417,733	2,734,405
Hamburg	1,017,000	47,172	48,491	1,017,000	2,014,333
Antwerp	57,441	706	706	57,441	58,240
Genoa	5,571	13,433	1,777	5,571	23,374
Pará	47	152	233	47	279

Total, 10,522,352 kilograms. Total, 10,522,352 kilograms. Total, 10,522,352 kilograms.

TOTAL EXPORTS, INCLUDING TRANSIT RUBBER.

To—	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York	5,074,061	1,226,853	1,204,411	1,358,733	8,664,058
Liverpool	3,772,017	914,781	704,217	1,454,733	6,593,307
Havre	574,023	55,429	78,517	2,339,733	2,734,405
Hamburg	1,017,000	47,172	48,491	1,017,000	2,014,333
Antwerp	57,441	706	706	57,441	58,240
Genoa	5,571	13,433	1,777	5,571	23,374
Pará	47	152	233	47	279

Total, 10,522,352 kilograms. Total, 10,522,352 kilograms. Total, 10,522,352 kilograms.

These figures do not embrace rubber shipped direct from Iquitos, from which source 2,058,495 kilograms passed Pará during the calendar year 1905. Nor do they include certain shipments of rubber produced in the state of Amazonas below Manaus and going to Pará or direct to Europe, the whole amounting to 29,625 kilograms.

Statistics are not available of the exports of rubber from Pará, exclusive of what was received from up the river, but a combined statement for Pará and Manaus shows:

Pará and Manaus stocks, December 31, 1905, 1,042,000 kilograms. Combined receipts, 31,304,942 kilograms.

Aggregating, 32,346,942 kilograms. Combined exports, 31,094,942 kilograms.

Stocks, December 31, 1905, 1,295,000 kilograms.

If there be subtracted from these exports the total figures for the movement through Manaus, including the direct shipments from Iquitos, and the small amounts from Amazonas ports below Manaus, there remains 11,277,450 kilograms to be regarded as the produce of the state of Pará—an increase of 125 tons over the production for 1902, as arrived at by a similar calculation.

RUBBER blankets are being recommended throughout northern Ohio as a cure for bronchial and lung trouble, and because of the recommendation being made by many physicians the sale of rubber blankets has largely increased. They are used in sleeping out of doors.

NEW GOODS AND SPECIALTIES IN K. L. FINEA.

THE 'IMPERIAL WATER BAG.

A SLIGHT defect in a hot water bag is the means of an injury so serious that it cannot be made and discrimination cannot be made in their choice by the purchaser. For too much care and thought is expended in their manufacture.

A seamless bag lessens the possibility of unexpected leakage and the one illustrated here with the rings is the class. Another advantage is that it has a hard rubber neck which does not absorb heat, and consequently does not burn the hands or otherwise make the handling a matter of much discomfort. It also has a thermometer which many will consider an additional advantage. Bags of this make, also with the hard rubber neck, are supplied for fountain syringes.

(The Imperial Rubber Co., Beach City, Ohio.)

"RIVAL" HEELS AND SOLES.

A FEATURE long sought by manufacturers of rubber heels and soles has been the non-slipping quality. The ease of walking and the buoyancy of movement afforded by the rubber heel, many people have been obliged to forego on account of the fear they entertained of slipping. This very desirable non-slipping feature has been developed in the "Rival" heels and soles and safety in walking is thus assured. They are composed of a black, tough rubber stock with a center of white, pure rubber and ground cork the latter producing the desired result, that of ensuring the safety of the wearer. Durability is

also guaranteed. These qualities combine to remove from the rubber heels and soles the last vestige of roughness that can justly be felt against them. Ajax-Griest Rubber Co. Trenton, New Jersey

THE "EVER-NETCH"—A BALL NOVELT:

This is one of the newer games and is creating a great deal of fun not only among children but grown-ups as well. It is equally well suited to a pleasant evening at home or a public festival. There is a bit of skill required but not enough

[illegible][illegible]

1. *Phragmites* (common)
2. *Phragmites* (common)
3. *Phragmites* (common)
4. *Phragmites* (common)
5. *Phragmites* (common)
6. *Phragmites* (common)
7. *Phragmites* (common)
8. *Phragmites* (common)
9. *Phragmites* (common)
10. *Phragmites* (common)

As the country is in a state of confusion and disorder, the public favor the removal of the capital to a more secure place. The removal of the capital to a more secure place is a matter of great importance and should be considered with the utmost care.

[illegible]

COMPLEXION BULB.

By comparison with other methods and means employed to stimulate circulation, the rubber complexion bulb has been conceded a foremost position. The manner of manipulating it is easy, it being placed against the face and hastily withdrawn, the suction thus obtained acting as a stimulant to the skin. The soft rubber in contact with the skin is soothing without the unpleasant effect sometimes following the application of any foreign substance. The bulbs are preferred by some to the brush as the effort of using them is somewhat less wearying. The bulbs are used especially for the face and are sometimes employed with satisfactory results on the electrical massage machines. They are light and delicate in construction. [The Mitzel Rubber Co., Carrollton, Ohio.]



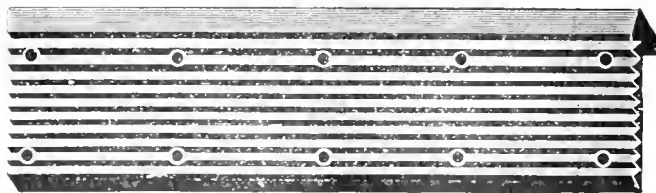
RUBBER RUG MATS AND STAIR PLATES.

It is interesting to note to what an extent rubber is being utilized in the appointments of the household, especially in the accessories that go towards simplifying the problems of



RUBBER STAIR PLATES.

the housewife and lightening her burdens. One such specialty is the rubber rug binding. So long it has been a question what to do to prevent the slipping of rugs over the polished floor surface, but this has been surely and satisfactorily settled in the use of the rug binding. The Acme Rug Corners also serve the same purpose. These are beveled on two sides and make a neat finish for the rug and are also a protection to its corners. These mats are perforated ready for sewing, as is the binding. The rubber stair plates are

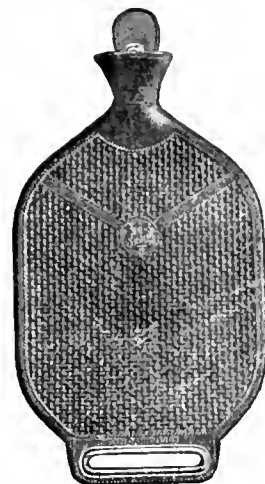


RUBBER RUG BINDING.

also a great promoter of safety and of ease in ascending and descending stairs. When these plates come with the nosing attached they are especially advantageous and much neater in appearance. [The John Kroder & Henry Reubel Co., New York.]

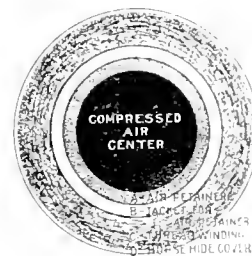
NO-SEAM HOT WATER BOTTLE.

The advantage of the seamless construction of hot water bottles is too obvious for comment. As every one knows, the most vulnerable part of the hot water bottle as originally made, was the seam, this being where leaks occurred, if anywhere. Of course the idea of a seamless bottle is not new, but the illustration herewith relates to an attractive new line of goods in this class, marketed for several months past by The Pure Gum Specialty Co., (Barberton, Ohio). The design shown is covered by a patent granted to E. J. Schultz. While appearance is not a necessary factor in this article of household comfort, that factor is not overlooked by most purchasers and in this regard this one would seem to be well towards the front.



PNEUMATIC BASEBALL.

AN improvement in baseballs, perhaps the greatest one in a long time, is the pneumatic ball. It is made in the regulation size and weight and has the endorsement of famous players. The compressed air in the center keeps the ball hard and perfectly round, not allowing it to get soft from batting. Besides having all the requirements laid down by the American and National leagues, the Pneumatic baseball has also the distinctive feature of being worth recovering.



and not only that, but of being as good as new after that process has been undergone. In fact, the balls are referred to as being worth several covers. The inner wall comprises a composition of gelatine through which the air is put in by means of a hollow needle. When the needle is withdrawn the puncture in the gelatine wall closes, permanently sealing the air. A wall of strong thread gives strength to the ball, and its outer wall or cover is the best horse hide, hand sewed. [The Goodyear Tire and Rubber Co., Akron, Ohio.]

A PNEUMATIC CAR DOOR BUFFER.

AN unusual use for pneumatic cushions is found in the railway car door invented by Charles S. Sergeant of Brookline, Massachusetts, and in use by the Boston Elevated railroad. The side and end doors of the cars are closed pneumatically and against a hollow rubber cushion which runs from the top of the door to the bottom and forms a perfect packing, and indeed a very resilient buffer.

JAVA exported 14,055 kilograms of rubber during the first quarter of 1906, against 6381 kilograms for the first quarter of 1905.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED OCTOBER 2, 1906.

- N O. 832,038. Pneumatic valve. H. A. Carlsson, Bridgeport, Conn.
- 832,039. Solid rubber tire. E. D. Carr, Akron, Ohio.
- 832,170. Tire tool. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 832,277. Process of manufacturing overshoes. S. Schwarzschild, assignor of one-third each to A. Vogt, E. G. Pfahl, and A. E. Vogt, all of Rochester, N. Y.
- 832,278. Process of manufacturing overshoes. *Same*.
- 832,375. Pneumatic heel cushion. W. L. Gordon, Deal, N. J.
- 832,453. Tire case. F. E. Bowers, New Haven, Conn.
- 832,468. Hoof pad [with resilient air chamber beneath the frog]. E. Fitzgerald, Chicago.
- 832,475. Window cleaner. E. M. George, Grand Forks, British Columbia.
- 832,514. Attachment for elastic tires. [Protector comprising a metal sheath.] W. H. Violett, Meeker, Colo.
- 832,550. Combined insole and retaining device. J. J. Lepper, assignor of one half to E. G. Rauber, both of Milwaukee, Wis.

Trade Marks.

- 5,161. American Hard Rubber Co., New York. The word ROYAL. For hard rubber syringes.
- 11,268. The Pneumatic Rubber Sole and Heel Syndicate, Ltd., Leicester, England. The word AEROLITE. For soles, heels, and protectors (for boots and shoes).
- 15,383. W. S. Nott Co., Minneapolis, Minn. The word STAR. For rubber boots and rubber shoes.
- 17,731. Parsons & Parsons, Cleveland, Ohio. For rubber collars.
- 21,607. The Neverslip Mfg. Co., New Brunswick, N. J. Red color applied to the tips of a horseshoes.

ISSUED OCTOBER 9, 1906.

- 832,610. Permanently pliable and adhesive compound for insulating and other purposes. R. L. Johnstone, Glenridge, N. J.
- 832,617. Cushion key for typewriters. G. W. Munson and T. F. Hodgkiss, New York, assignors to Munson Supply Co.
- 832,702. Vehicle wheel tire. A. T. Sherman, Detroit, Mich.
- 832,781. Hoof pad. Joseph M. Doke, Fostoria, Ohio.
- 832,841. Compound for sealing punctures in pneumatic tires. D. Charleston, Melbourne, Australia.
- 832,864. Comb. D. C. Lockwood, Newark, N. J., assignor to Rubber and Celluloid Harness Trimming Co.
- 833,115. Vehicle wheel. H. Bell, Stamford, Conn.
- 833,136. Surgical implement. A. Littauer, Brooklyn, N. Y., assignor to W. N. Sharp, Chicago.

Trade Marks.

- 20,917. The S. & L. Rubber Co., Chester, Pa. The letters S. & L. associated with rubber recovered from waste and commonly known as reclaimed rubber.

ISSUED OCTOBER 16, 1906.

- 833,183. Vehicle wheel [with rim for an elastic tire]. L. Sturges, Chicago.
- 833,199. Appliance for securing the rims and [pneumatic] tires of vehicle wheels. C. B. Cave-Brown-Cave, Chesham, England.
- 833,234. Pneumatic tire shield [consisting of a flexible armor]. J. H. Lowrey, Neola, Iowa.
- 833,397. Vehicle wheel [with elastic tire]. F. J. Lancaster, New York city.
- 833,398. Vehicle wheel. *Same*.
- 833,520. Vehicle wheel rim [with detachable flange; for pneumatic tires]. D. D. Griffiths, assignor of one-half to E. E. Laughlin, both of Chicago.
- 833,633. Device for preventing seasickness on ships [comprising an air cushioned chair]. H. Rinne, Essen-on-the-Ruhr, Germany.

Trade Marks.

- 5,164. American Hard Rubber Co., New York city. The words GOODYEAR 1851. For hard rubber combs.

- 8,840. Revere Rubber Co., Boston. The words BLACK CROSS. For belting and machinery packings.
- 8,847. Revere Rubber Co., Boston. The word SILVERTOWN. For belting and hose.
- 12,438. The Cravenette Co., Ltd., Bradford, England. The word DUKBAK. For waterproofed fabrics.
- 13,080. Revere Rubber Co., Boston. The letters A. C. For horseshoe pads.
- 20,430. Standard Underground Cable Co., Pittsburgh, Pa. The words TIP TOP. For insulated wires and cables.
- 20,762. Pennsylvania Rubber Co., Jeannette, Pa. The word CEN-LURY. For sheet packing, rubber gaskets, and hose.

ISSUED OCTOBER 23, 1906.

- 833,757. Trace [for harness; a flexible steel cable is covered with rubber molded upon it]. S. Shisler, assignor to The Cable Trace Co., Cleveland, Ohio.
- 833,981. Detachable pneumatic tire. C. S. Scott, Cadiz, Ohio.
- 834,015. Rubber tire. [Composed of a tread portion made of resilient rubber, a base portion made of firmer and less resilient rubber, in which a plurality of plies of open work metal fabric is embedded, and a substantial zone of rubber of less resiliency than the tread, which is vulcanized between the tread and the base.] A. H. Marks, assignor to The Diamond Rubber Co., Akron, Ohio.
- 834,025. Storm cover for vehicles. H. D. Purcell, Washington Courthouse, Ohio.
- 834,074. Hose. J. S. Patterson, assignor to J. S. Wilson, Chelsea, Mass.
- 834,185. Air pressure supply apparatus for atomizers. C. E. Campbell, assignor to The Faultless Rubber Co., Ashland, Ohio.

Trade Marks.

- 8,693. A. J. Reach Co., Philadelphia. The word REACH in a design. For various sporting goods.
- 9,534. Standard Underground Cable Co., Pittsburgh, Pa. The word STANDARD. For insulated wires and cables and insulating compounds.
- 18,841. John Bister, New York city. The word PLUVETTE. For mcerized cotton cloth covered on one side with rubber.
- 19,674. The Akron Rubber Shoe Co., Akron, Ohio. The word STRAIGHT-LINE underlined. For rubber boots or shoes.

ISSUED OCTOBER 30, 1906.

- 834,259. Artificial ear drum. J. B. Campbell, New York city.
- 834,351. Method of making rubber hose. W. H. Adams, assignor of one-half to H. U. Beck, both of Montreal, Quebec.
- 834,373. Fountain pen. Frank O. Ellis, Philadelphia.
- 834,451. Vulcanizing apparatus. J. R. Austin, Mishawaka, Ind.
- 834,541. Fountain pen. W. A. Welty, Waterloo, Iowa.
- 834,542. Fountain pen. *Same*.
- 834,608. Mold for rubber tires. W. Dunbar, Akron, Ohio.
- 834,623. Process of recovering rubber from rubber waste. W. A. Kõneman, Chicago.
- 834,712. Truss. F. Crater, assignor to himself and T. B. Allison, both of Parsons, Kans.
- 834,744. Fountain pen. J. J. Mead, New York city.
- 834,769. Rubber-like gum. B. F. Spencer, Denver, Col., assignor to the Western Parent Crude Rubber Co., Santa Fe, a corporation of New Mexico.

Trade Marks.

777. The Stork Co., Boston. The word STORK. For textile waterproof fabrics.

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, SEPTEMBER 26, 1906.]

- 11,420 (1905). Exercising apparatus. I. Belvoir, New Southgate, Middlesex.
- 11,422 (1905). Hose pipes. J. E. Hopkinson, Pará Rubber Mills, West Drayton, Middlesex.
- 11,820 (1905). Check valves for pneumatic tires and the like. C. Nielsen, Copenhagen, Denmark.

- 11,170 (1905). Armor for electric cables. W. Bacon, Grappenhall, Lancashire.
[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 3, 1906.]
- 11,880 (1905). Vehicle wheels [constructed with two parallel flat rings between which fit tread-blocks of wood pressed outwards by a pneumatic or other resilient cushion resting on a free ring]. J. N. B. Moore, Bourneside, Suffolk.
- 11,047 (1905). Stoppers [for bottles containing alkalies, acids and other chemicals, and for laboratory apparatus]. R. R. Mumford, London.
- 12,129 (1905). Elastic tire [the base of which is formed with a circumferential groove in which fits an inextensible core consisting of plies of wires separated by layers of rubber]. J. V. Worthington, London.
- 12,184 (1905). Cover for elastic tires [formed of layers of leather]. C. Rossel, Sochaux, France.
- 12,203A (1905). Dental plates [of two superposed layers of rubber only one of which is colored]. L. Eilertsen, Paris, France.
- 12,243 (1905). Horseshoe. R. Pfeffel, and B. Beuchler, Forst, Prussia, Germany.
- 12,269 (1905). Shower bath apparatus. C. P. T. Roux, Niort, France.
- *12,272 (1905). Eraser [for lead pencils]. A. F. W. Bowen, San Francisco, California.
- 12,358 (1905). Bust improver. S. A. Bhisey, Essex road, London.
[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 10, 1906.]
- 12,380 (1905). A lever for removing and replacing pneumatic tires. A. Deschamps, Paris, France.
- 12,447 (1905). Abdominal belt or truss for prevention of seasickness. E. A. Davis, Cookshire, and C. C. Knight, Sherbrooke, Canada.
- 12,470 (1905). Horseshoe. H. Hennen, Düsseldorf, Germany.
- 12,500 (1905). Interchangeable tips for boot heels and shoes. W. Barber, London.
- 13,622 (1905). Filling nozzle for hot water bags. W. Currie, Edinburgh.
- 12,633 (1905). Tire segments fitted in holders, elastic cushions being placed between holders and base of rim pocket. W. B. Hartridge, London.
- 12,711 (1905). Pneumatic tire with special tread. W. Bagguley, Lanarkshire.
- 11,711A (1905). Tires with rubber strips in air chambers to exclude dust. *Same*.
- 12,728 (1905). Tread protector for tires. C. B. Burdon, London. (Société Anonyme des Pneumatiques Cuir "Samson," Paris, France.)
- 12,768 (1905). Method of repairing pneumatic tires by means of leather patches and rivets. G. Müller and A. Bewig, Brunswick, Germany.
- 12,832 (1905). Disk wheel adapted for pneumatic tires. E. Martin, London.
- 12,859 (1905). Process of obtaining raw rubber from chopped rubber plants by crushing them under water and extracting raw material. [A mixture of acetone and amyl methyl, and ethyl alcohol is used to separate resin, oil, wax, etc. The rubber is then washed and dried and the solvent separated from the resin by distillation.] Baron K. von Stechow, Wiesbaden, Germany.
[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 17, 1906.]
- 12,938 (1905). Spring wheel around the axle of which is placed a perforated rubber pad for use in case the spring should break. J. B. LeMaitre, Birmingham.
- 12,960 (1905). Closet seat guard. A. Hebert, Vevey, Switzerland.
- 12,985 (1905). Vehicle wheel with special means for retaining a pneumatic tire. R. B. Charlton, Newcastle-on-Tyne.
- 13,055 (1905). In fixing rubber to an iron base, for making rollers, the intermediate layer of rubber is used made of hard rubber. The object of this invention is to prevent separation of the two rubber layers by the formation of undercut projections, ledges, etc., on the hard rubber. W. Struck, Berlin, Germany.
- 13,050 (1905). Solid rubber tire. *Same*.
- 13,197 (1905). Method of attaching rubber tires. *Same*.
- 13,297 (1905). Composition consisting chiefly of rubber with metallic wool interspersed, for making shoes, soles, heels, tires, etc. J. P. Crane, Chicago, Illinois.
- 13,224 (1905). Solid elastic tire. A. T. Collier, St. Alban's, and Reilloc Tyre Co.
- 13,315 (1905). Pneumatic tire. [Relates to anti skidding bands of leather, holding metallic rivets or studs]. J. B. Brooks and J. Holt, Birmingham.
- 13,339 (1905). Tire made of a series of resilient blocks. F. Toni, London.
- 13,392 (1905). Elastic tire [a wheel is provided with a rubber tire molded on the rim, the wheel itself being used as the inner part of the mold with two quarter sections for the top and bottom so as to make a complete mold, which is closed by hydraulic pressure]. W. E. Rowcliffe, Manchester.
- 13,443 (1905). Vehicle tire [formed of blocks of wood which bear upon rubber cushions or metal springs]. J. B. LeMaitre, Sparkbrook, near Birmingham.
- 13,457 (1905). Stoppers. C. Bonafede, Paris.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

- 363,646 (Feb. 26, 1906). F. Lounstauman. Removable rim.
- 363,700 (Feb. 3). J. Ramb. Inflatable hamper.
- 363,710 (Feb. 16). C. M. Montezin. Elastic tire.
- 363,726 (Feb. 26). A. von Luede. Solid tire fastening.
- 363,822 (Mar. 3). H. F. Marie. Elastic tire.
- 363,830 (Mar. 5). V. Scholz. Extracting rubber from plants.
- 363,828 (Mar. 5). O. Patin. Elastic tire.
- 363,930 (Feb. 26). A. A. C. Desletre. Spring wheel.
- 363,961 (Mar. 8). J. M. Shepard. Pneumatic tire.
- 364,027 (Mar. 10). J. Bessoneau. Pneumatic tire.
- 364,675 (Mar. 13). L. Roland. Rubber substitute.
- 364,076 (Mar. 13). L. Roland. Elastic tire.
- 363,989 (Mar. 9). P. Pechanbes. Pneumatic valve.
- 364,193 (Feb. 8). G. O. Heine. Antiskid tire.
- 364,273 (Mar. 15). G. Sinnott. Spring wheel.
- 364,170 (Mar. 14). J. Jacobson. Artificial flowers.
- 364,271 (Mar. 15). D. Benko. Suspenders.
- 364,323 (Mar. 17). L. Pilla. Spring wheel.
- 364,142 (Mar. 6). H. E. Bragg. Tire improvements.
- 364,289 (Mar. 15). Société Decultit & Cie. Elastic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counsel, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

MERIT OF THE HOT WATER BAG.

THE hot water bag has helped to dissipate at least one popular medical fallacy, according to Dr. Leonard Keene Hirshberg, in an article in the *American Magazine*. It has driven out what he calls "our old soggy friend, the flaxseed poultice." The point is that water is really the active agent in thousands of cures credited to other things. The flaxseed poultice used to be prescribed "for a hundred and one infantile complaints—swollen jaws, bee stings, bruises, 'bumps' on the cranium, boils, sprains, sore muscles, and so on. It was sloppy, hot, and unpleasant, but we submitted to its loathsome embraces because we knew that it oftentimes cured. And yet it would have cured just as often if it had been made of bran or sawdust.

"The thing of chief value in the flaxseed poultice—and in nearly every other sort of poultice of days gone by—was the heat. The heat in the water alone, without the flaxseed, would have cured just as quickly. The sole virtue of the meal lay in the fact that it enabled the water to retain a comparatively high temperature a bit longer than plain water might have done. To-day we enclose the water in a rubber bag and do without the flaxseed. The rubber bag is dry, handy, and clean. The flaxseed poultice was wet, uncomfortable, and very dirty."

THE RUBBER INDUSTRY IN THE CENSUS.

THE results of the 1905 census of manufactures in the United States have been published, in the shape of a series of bulletins, with the effect of showing a marked increase in the amount of capital and number of wage earners employed, and in the value of products, as compared with the last regular decennial census (1900). The increase shown under these heads in the India rubber industry is particularly marked, few other industries having shown an equal rate of growth. The figures given in the 1905 census relate to the year ending December 31, 1904, and the enumeration doubtless has been the most thorough piece of work of the kind yet accomplished, though of course no census can be absolutely accurate. Thus in connection with rubber footwear, the statement of value of products in the new census is unsatisfactory, but from the other details relating to this industry, which are not questioned, it is certain that the shoe interest has grown very largely.

The figures in the accompanying tables have been compiled from Bulletin 57 of the 1905 census, which embraces, for the purpose of comparison, figures from the last three decennial censuses. The rubber industry is classified under three heads: Belting and hose—rubber; Boots and shoes—rubber; and Rubber and elastic goods. No indication is given of what may be embraced under the latter head, but presumably the whole field of rubber goods production not included in the first two classes—except insulated wire. So far as can be judged from these bulletins, reclaimed rubber is included.

According to the tables herewith the total value of products as shown by the four censuses has been as follows:

1880.....	\$25,310,648
1890.....	42,853,817
1900.....	99,880,693
1905.....	148,015,391

There appears in Bulletin 53, devoted to manufactures in Massachusetts, a note which should be considered here. The value of rubber footwear produced in that state in the last census year is reported at \$30,034,549, against \$16,490,015 in 1900—a gain of about 137 per cent., whereas the number of wage earners in this branch increased only 46 per cent. and the amount of wages only 53 per cent. during the five years. The Bulletin says in regard to value of products:

It is doubtful, however, if so great an increase was actually made in the industry. It is probable that, instead of reporting the value of the products on a basis similar to that used in 1900, some of the reports were prepared on the basis of a list price, subject to the large discounts peculiar to the industry, the result of which would be an excessive value of products for 1905.

As will be seen, the census office recognizes that the figures on the rubber shoe production are unsatisfactory. In discussing the matter with THE INDIA RUBBER WORLD the director of the census wrote:

The census office experienced much difficulty in obtaining satisfactory information concerning the value of products in this indus-

BELTING AND HOSE—RUBBER.

	1880.	1890.	1900.	1905.
Number of factories.....	2	17	18	19
Capital.....	\$285,000	\$5,270,068	\$5,493,755	\$13,210,273
Salaries paid.....	.....	160,748	336,319	807,048
Average No. wage earners.	364	1,735	1,721	3,608
Total wages.....	\$ 131,724	\$ 883,020	\$ 918,191	\$ 1,804,092
Miscellaneous expenses....	.....	282,543	234,730	1,571,091
Cost of materials.....	863,000	3,479,538	4,975,792	9,089,776
Value of products.....	1,085,000	5,512,840	6,169,041	14,954,186

BOOTS AND SHOES—RUBBER.

	1880.	1890.	1900.	1905.
Number of factories.....	9	11	22	52
Capital.....	\$2425,600	\$17,799,070	\$33,667,533	\$38,141,526
Salaries paid.....	.....	153,702	597,239	874,091
Average No. wage earners.	4602	9,134	14,301	18,901
Total wages.....	\$1,469,038	\$3,713,073	\$6,426,570	\$8,801,806
Miscellaneous expenses....	.....	943,918	2,099,154	3,215,373
Cost of materials.....	6,023,053	11,450,787	22,682,543	32,060,464
Value of products.....	9,706,724	18,632,060	41,089,819	70,065,296

RUBBER AND ELASTIC GOODS.

	1880.	1890.	1900.	1905.
Number of factories.....	93	139	261	294
Capital.....	\$6,284,187	\$13,793,787	\$30,023,373	\$46,207,537
Salaries paid.....	.....	852,299	2,215,597	2,857,537
Average No. wage earners.	6,763	9,183	20,401	21,184
Total wages.....	\$2,450,672	\$3,663,976	\$8,811,803	\$9,112,68
Miscellaneous expenses....	.....	1,133,182	2,805,200	6,511,272
Cost of materials.....	9,641,167	11,113,528	31,482,311	38,912,226
Value of products.....	14,518,024	18,768,917	52,611,839	62,995,969

try. A continuous effort was made throughout the year 1905 and even into 1906, to secure reports from manufacturers that could be accepted as entirely satisfactory. A few manufacturers declared that it was impossible to make an accurate report of the actual amounts received for products during the year, and that the values returned upon the census schedules were the only amounts that could be supplied from their records. Thus what we eventually secured appeared to be the best that could be obtained. It is our purpose to explain this condition clearly in the census reports, and perhaps in commenting upon the figures to refer to the fact that some trade discounts ought to be made to arrive at the actual value.

MASSACHUSETTS.

THE figures which follow are compiled from the 1905 census bulletin devoted to Massachusetts:

	Boots and Shoes—Rubber.	Rubber and Elastic goods.
Number of factories.....	7	47
Capital.....	\$14,844,588	\$10,948,266
Salaries paid.....	287,002	600,646
Average number wage earners.....	7,074	5,003
Wages paid.....	\$3,754,001	\$2,281,141
Miscellaneous expenses.....	1,387,049	1,158,158
Cost of materials.....	13,178,270	8,828,556
Value of products.....	39,034,549	14,088,471

[In the census office classification one Massachusetts factory is in the list "Belting and hose—rubber," and no details in regard to it are included in the above table.]

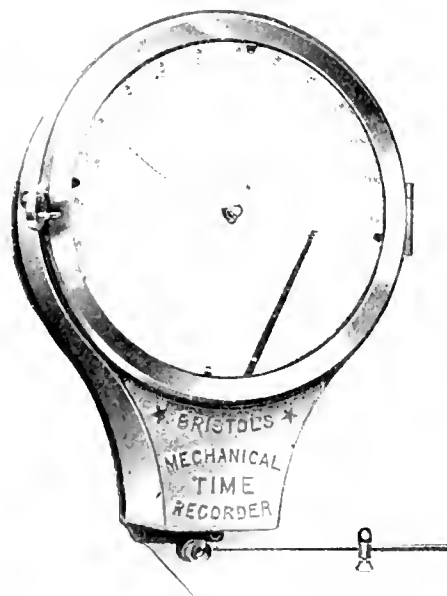
NEW JERSEY.

THE figures herewith, from the New Jersey bulletin, do not include details relating to the two rubber boot and shoe factories in the state:

	Belting and Hose—Rubber.	Rubber and Elastic goods.
Number of factories.....	12	24
Capital.....	\$8,481,247	\$3,788,359
Salaries paid.....	461,382	221,216
Average number wage earners.....	2,192	1,728
Wages paid.....	\$1,112,049	\$845,653
Miscellaneous expenses.....	949,326	398,502
Cost of materials.....	6,141,405	2,959,229
Value of products.....	9,915,742	4,836,358

MECHANICAL TIME RECORDER.

AN instrument to make a graphic and accurate record of mechanical movements in mill and factory has been something that has long been a need of more or less import. This requirement has been met by the Bristol Co., of Waterbury, Connecticut, in their Mechanical Time Recorder, which they have been marketing recently. In construction it is a circular chart, 8 inches in diameter, revolving by



clock work at uniform speed, movements being supplied for complete revolution once in 15 minutes; 1, 2, 3, 4, 6, 8, 10, 12, and 24 hours, and 7 days. In this way the speed may be selected to give best results under all commercial requirements. A pen arm is rigidly attached at its lower end to a shaft which is turned by a short arm projecting through a slot in the bottom of the case. The lever which is shown in the illustration is clamped to the short arm by a thumb nut,

is adjustable, and can be clamped to the arm at any convenient angle. The parts are so regulated that the instrument is conveniently adapted to record motions of all amounts and directions. It can be used to record the rate of motion and position of sluice gates, turbine or engine governors, gate valves, etc. It is also adapted for recording the rise and fall of liquids in tanks, rivers, reservoirs, and fore bay. The distinct advantages in its use are at once recognized as varied and desirable. A use in rubber factories, very few of which are operated by water power, is in making a continuous record of the time when the rolls of mixing mills, for example, are in operation and a positive record of the time they may run empty.

METHOD OF MAKING FIRE HOSE.

A NEW invention of a method of making fire hose consists in partially curing a rubber tube, inserting this within a tube of cotton or other fabric, further curing the rubber tube and distending the same to adhere to the tube of fabric. A cooling medium is now passed through the rubber tube, after which a cold hollow mandrel is inserted. An outer coating of rubber is applied to the tube of fabric, said rubber being protected by a temporary covering of fabric to prevent overcuring after which the inner and outer rubber surfaces are fully cured. The patentee is William H. Adams, formerly connected with the fire hose trade in the United States and now of Montreal, Canada.

SOME WANTS OF THE TRADE.

[355] A READER wishes to communicate with "some individuals who make a specialty of making brass moulds for rubber horse shoe pads." [Nobody makes brass molds for rubber horse shoe pads. Brass cannot be used for molding rubber for the reason that the sulphur in the rubber would unite with the copper during vulcanization, and the molded article would stay in the mold unless cut out with a chisel. THE EDITOR.]

[356] A prominent rubber gatherer desires to gain information respecting the cure of rubber in Ceylon. [Clippings were sent from THE INDIA RUBBER WORLD, showing a centrifugal machine made in London and also a coagulating machine made in the Federated Malay States. For your purpose it looks as if the London machine would be the better. I don't know whether you have a prejudice against adding water to the rubber milk, but my own experience leads me to believe that it does no harm at all. This Christy machine is now in use in Mexico, and is coagulating the milk of the *Castilloa* tree very nicely. The machine can be worked by hand, but the better way, of course, is to have a small gasoline engine to work it. I would suggest that you get one of these machines and put up a dry house and do the whole thing on a small scale until you discover exactly what the commercial scale should be. With regard to the use of acetic acid coagulation, that is done by adding a few drops to a pint of milk and letting it set in a shallow vessel over night. I don't advise that, if you can make the mechanical coagulation by the centrifugal machine do the work it appears to me much better.—THE EDITOR.]

[357] A reader of THE INDIA RUBBER WORLD would like to communicate with makers of Nigum.

[358] A large Southern mechanical rubber goods concern asks for addresses of the manufacturers of canvas belting.

[359] An Arkansas tent and awning company wish a list of makers of rubber toys, dolls, and balls.

[360] The following communication has been received from a foreign correspondent: "Permit us to inquire whether you are in a position to put us next to a machine factory which could make us machines for the manufacture of round woven cotton tubing (hose)."

[361] A German reader has heard of a vertical spreading machine bought in America and wishes information concerning it, also the name of any company that may manufacture such machines in this country.

[362] One or two of the ordinary processes for dissolving asbestos to a liquid or plastic state are asked for through the columns of THE INDIA RUBBER WORLD. The inquirer for these processes says: "I have a process for dissolving it to a plastic state but it does not leave it pure. It contains some of its group or family. What use might be made of the product?"

[363] Small rubber tubing in large quantities is desired by a correspondent. The size required would be about $\frac{3}{8}$ inch in diameter and would not have to be of the best. It would be preferable that some of this tubing be made in colors, perhaps in red and green.

[364] Apropos of an article in THE INDIA RUBBER WORLD for November, we are requested to furnish names and addresses of those interested in the erection of factories for the production of Guayule rubber in Torreón, Mexico.

THE "V. D. K." RUBBER TAPPING KNIFE.

NO detail connected with the crude rubber interest whether based upon forest resources or planted trees, is of more importance than the method of extracting the latex, since without good practice in this regard not only is the yield limited, but the life of the trees shortened unnecessarily. Two illustrations on this page relate to a new rubber tapping knife—The "V. D. K."—patented by Monsieur Gustav Van den Kerckhove, a Belgian rubber expert, who has given much study to this subject. The knife consists of a steel spike, with handle. At the end of the spike,



THE "V. D. K." TAPPING KNIFE.

[Combination of the two small blades allowing the bark to be cleanly stripped in one cut.]

of special shape, enables incisions to be made with ease in the thickest barks. Simple cuts may be made, or the V shape, herring bone, or double herring bone, as desired. It will be noticed that all the blades, according to the work to be done, can be fixed in the handle in the opposite way.

which is slightly curved, is a plate with screw, and three movable blades with oblique edges. These blades can be regulated according to the thickness of the bark, and they can be used combined or singly, according to requirement. In fact, this knife, being a combination, does away with the accessory instruments needed in some other systems, since the blades may be used in six different ways, to suit the various kinds of work to be done. The knife can be regulated so as to make an incision in the bark only; it permits the making of the incision from bottom to top or *vice versa*; the use of the two small blades together, on small plants, allows the bark to be cleanly stripped in one cut, which

bark, after the flow of the latex, can be replaced. The large blade,



The single small blade for the dressing of the incision.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of September, 1905, and for the first nine months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
September, 1905.	\$ 95,051	\$147,384	\$ 267,819	\$ 510,254
January-August.	500,245	788,955	2,094,098	3,683,309
Total.	\$595,296	\$936,339	\$2,361,917	\$4,193,563
Total, 1905.	\$56,493	944,494	2,127,300	3,928,287
Total, 1904.	647,245	844,802	1,779,256	3,271,303
Total, 1903.	633,744	628,592	1,855,756	3,118,092
Total, 1902.	513,636	718,759	1,467,000	2,699,395

GRADES OF WASTE RUBBER.

THE time has long since passed when worn out rubber shoes formed practically the whole of the material used for rubber reclaiming. To day the rule is not to discard, when worn out, any kind of goods containing rubber. At the same time, it may be that the following list of grades of waste rubber handled by Mr. J. Schnurmann, an extensive London merchant in this branch, lately supplied by him to THE INDIA RUBBER WORLD, is much larger and more varied than many persons in the trade have seen. Mr. Schnurmann's location is Downham Mills, Tottenham, where his business gives employment to 150 workers. The list follows:

B. B. carriage tire stock.	Drab buffer stock.
Fine red stock.	Drab valves stock.
Crusty stock No. 1.	New black valve stock.
Automobile tires—without and without beads.	
Cable stock—prime and second.	Toys and lads.
Drab and white hose strippings.	Red Codd's rings.
Hand stripped vacuums and air brake.	
Hand stripped automobile tires.	Hand stripped water bottles.
New mackintosh cuttings—English manufacture.	
Hand stripped pneumatic cycle covers.	
Drab hose.	Old mackintoshes.
Drab and white stock.	Prime floating inner tubes.
Semi floating inner tubes.	English cycle covers with beads.
Vacuum and air brake hose.	Floating stock.
Floating surgical stock.	Dress shields.
Floating cycle stripping—hand stripped.	
Semi floating cycle stripping—hand or acid stripped.	
Automobile tires.	Black hose.
Galoshes.	Cushion tires.
Red insertion.	Red automobile tubes.
Black buffers.	Drab insertion.
Red valves.	Crusty stock No. 2.
Solid cab tires.	Wireless Dunlop system covers.
Black valves.	Black insertion.
Black matting.	Black waste [beads.
Pneumatic stock.	North British cycle covers—no
Ordinary red stock.	Water bottles with insertion.
Vulcanized cement waste.	Unvulcanized cement.
Reclaimed mackintosh coat cuttings.	
P. O. (poor old) Gutta-percha strippings.	
Gutta-percha buckets.	Ordinary Gutta-percha stock.
White waste.	Amiralty fire hose strippings.
Uncured friction waste.	Vulcanite shavings.
Vulcanite dust.	

NEW TRADE PUBLICATIONS.

THE latest catalogue of THE MECHANICAL RUBBER CO. (Chicago Rubber Works) is written in readable style and well got up mechanically, besides which it is of interest throughout on account of the variety of goods so well described. Not only rubber belting, hose, and packings receive attention, but a great number of articles in molded goods and other specialties. [6" x 9". 145 pages.]

THE HARTFORD RUBBER WORKS CO., in a booklet entitled "The Supreme Problem in Tires," describes the detachable rim which they have developed so successfully during the past year or two. [3 1/2" x 6 1/4". 24 pages.]

THE WIRE AND CABLE CO. (Montreal, Quebec) are sending out a little book, entitled "Electrical Compounds," which is a handy reference book of dimensions and other details in regard to such goods as they manufacture, including rubber covered wires and cables. [3 1/4" x 6". 68 pages.]

NEW YORK-BROADWAY RUBBER TIRE CO. (Brooklyn, New York), of which D. D. Martin is general manager, issue a catalogue of solid (internal wire and side wire) and Cushion Rubber Vehicle Tires. [5 1/4" x 8 1/4". 16 pages.]

THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

THE Woven Steel Hose and Rubber Co. are enjoying the busiest time in their history. J. Russell Kelso, the general manager, states that they have many orders ahead and that the trade prospect for next season is exceedingly bright. They have recently put on the market a new type of armored hose which has already become a great seller. The armor is constructed of heavy convex wire made of special steel by the John A. Roebling's Sons' Co., of Trenton. The wire is tempered for this work. The convex shape of the armor is one of its chief characteristics, causing it to grip the hose in such a way that it cannot be moved from its place. The armor is applied to the hose by a special machine.

The same company have had marked success in the manufacture of hydraulic hose for a large electric company. The hose stood a test pressure of 3,300 pounds to the square inch. The hose was designed to be used in forcing together certain parts of heavy electric machinery. To stand the unusually high pressure special couplings had to be designed, as the old form would not pass the test. The company met the situation by contriving a heavy coupling in which tapering wedges were used and the hose was held on these by heavy rings drawn up with large bolts. This invention has proved entirely effective. Manager Kelso says his company have received inquiries from Japan which it is expected will lead to a large trade opening in that country.

The Empire Rubber Manufacturing Co. also report a very busy trade. Mr. A. Boyd Cornell, secretary, says business looks unusually good. Every wheel in this big plant is turning. "You may say," said Mr. Cornell, "that we are looking for still better business next season."

The Empire Auto Tire Co. have placed on the market a rubber inner tube for automobile tires called the Peerless. The inner tube is of high grade, strictly, and the company are having splendid success with it.

Mr. Wilson H. Harding, general manager of the Union Rubber Co., is another local rubber man who reports trade as unusually prosperous. "Booming" was his description. Everything indicates a heavy selling next season, he thinks.

The Consolidated Rubber Co. are having a big rush of orders on their two lip fruit jar rubbers. This was got out by this company and is a great help to the housewife. A lip projects on each side of the rubber. When it is desired to open a can of fruit the rubber is grasped by the lips and pulled from under the jar cap.

Mr. John S. Broughton, secretary and general manager of the United and Globe Rubber Manufacturing Cos., has been elected a member of the board of trustees of Mercer Hospital, the leading institution of its kind in Trenton. When seen this month Mr. Broughton said he was too busy looking after contracts and attending to the crude rubber market to talk about the details. That was taken to mean that the Globe companies were as busy as usual, if not a little busier. They are handling several large contracts for railroad companies.

The Ajax-Grieb Rubber Co. are erecting a new building in connection with the plant on North Olden avenue. It will be a one story structure, 35 x 90 feet, and will cost \$1700. The new structure was made necessary by the consolidation of the Ajax and Grieb companies.

The Trenton Rubber Manufacturing Co., long noted for a fine grade of mechanical rubber goods, have taken up the manufacture of automobile tire tube. They are turning out two brands, "Triumph" and "Derby." They are made in gray or red rubber, respectively, and in all sizes. All are triple calendered, have absolutely no seams and are spiral wrapped. It is stated that a set of these tubes put on an automobile last spring, ran all summer without a single re-inflation, making a record of 5000 miles. The makers have received a letter telling of another set that also ran through the season without a re-inflation.

The New Jersey court of errors and appeals, at Trenton, on November 19, handed down a decision in the suit of the Eureka Fire Hose Co. v. The Eureka Rubber Manufacturing Co. of Trenton. The decision affirmed that of the chancery court, under date of June 6, 1905, awarding to the plaintiff company a limited injunction restricting the use of the word "Eureka" by the defendant company.

Three actions at law involving rubber companies are on the calendar of the term of the New Jersey court of errors and appeals, which opened at Trenton on November 20. The first is the appeal in the case of Quartermaster General C. Edward Murray and others against William H. Skirm, Jr. It was alleged in the suit that in September, 1903, the complainants got a judgment against Skirm for \$3341.74, under which they levied on 239 shares in the Empire Rubber Manufacturing Co. owned by Skirm. The shares were sold at public sale and it was claimed did not bring sufficient to satisfy the judgment. Later Skirm got a judgment against these complainants for about \$4000, and he claimed this should offset the judgment against him. In the court of chancery the decision was against Skirm and from this he has appealed.== Another case is the damage suit of Colon Fulton against the Grieb Rubber Co. This suit has been before the New Jersey courts about four years, and has become noted for the stubbornness of the contest over technicalities. Through an accident in the Grieb factory, Fulton, an employe, lost both hands in the machinery. He brought suit for heavy damages and was awarded a big verdict. The verdict was set aside as excessive. Then another verdict was obtained, but was overruled. This case is the appeal of Fulton from a decision against him on another phase of the case.== The third case is that of Cyril Johnson against the Hardman Rubber Co., of Belleville, N. J. The rubber company appeals from a decision of the Court of Chancery against it.

The court of errors and appeals has announced an opinion reversing the judgment of the Mercer county court in the suit of the Empire Rubber Manufacturing Co. against Morris & Co., manufacturers of duck at Yardville, N. J., and ordering a new trial. The case was one of damages claimed by reason of alleged breach of contract. The Empire company sued Morris & Co., alleging that a verbal contract existed for the supplying of cotton duck by the latter to the former; that deliveries were not made as agreed; and that the Empire company had gone into the open market and bought duck, which had greatly advanced in price. The amount sued for was the difference between the market price and that under the contract. A verdict was awarded to the Empire company for \$227, a much smaller sum than was sued for, and an appeal was taken on the ground that a ruling of the trial justice had limited improperly the damages allowable to the plaintiff.

RUBBER NOTES FROM EUROPE.

A RECENT patent relating to a waterproofing material, granted to Edward Frankenberg, of Hanover, Germany, mentions numerous advantages claimed from the combination in it of India-rubber and Gutta-percha—resistance to changes of temperature, capacity of being sterilized, durability, odorlessness, and so on. The surfaces of fabrics prepared by this process can be washed and ironed and regain their fresh appearance; the tissue, on the application of the iron, closing up any scratches or tears. This fabric is stated to have been used with success for undersheeting in a German government hospital.

=Vacuum drying stoves for many purposes have been made for some years by George Scott & Son (London), Limited, and they are now turning their attention to supplying a vacuum drying device suitable for drying new rubber on plantations. These stoves are made in different sizes, from 54 x 54 x 45 inches up. They are made of cast iron, heavily ribbed, and are very strong.

=At the Antwerp auction of October 23 the offerings included 4800 kilograms of Guayule, with a brokers' estimation of 5 francs, equal to 43 ¹/₄ cents per pound. One ton realized 4.85 francs [= 42 ¹/₂ cents] and the remainder 4.72 ¹/₂ francs.

=The Berlin Frankfort India-Rubber Co., for many years established in the heart of the city of Berlin, are building a great factory some five miles out of the city, and are making it up to date in every respect.

=Messrs. Typke & King, the India-rubber chemists and dealers in substitutes, at 10, Mincing lane, London, have become a public company, under the style Typke & King, Limited.

=At a meeting in London of the leading makers of rubber balls in Europe it was agreed to continue existing prices for a year. It appears that the German makers were in favor of an advance, but this was opposed by the British firms on the ground that prices are already so high as to restrict trade. They felt that it would be better to sustain a present loss and await a fall in the cost of raw material.

=The Franco-American India-Rubber Co. ("Prowodnik"), of Riga, Russia, have taken on the manufacture of motor tires, of which they were exhibitors at the late Olympia show, in London.

=J. E. Hopkinson & Co., Limited, of West Drayton, Middlesex, England, were awarded the *grand prix* and a gold medal at the Milan exposition for their solid rubber motor tires.

=The Kempshall Tyre Co. of Europe, Limited, has been registered in London, with £45,000 capital, to adopt an agreement with Eleazar Kempshall (of golf ball fame) to acquire certain patent rights relating to automobile tires and to carry on the manufacture of tires. Mr. Kempshall is to be a director so long as he holds £20,000 in shares.

PARA newspapers now contain advertisements regarding the employment of *Caucheiros*—the workers in gathering Cauchó, indicating that production of this grade of rubber is approaching nearer Pará. The gatherers of the regular Pará rubber are termed *Seringueiros*, from a native name of the rubber tree, *seringa*. Hence, also, the term *seringal*, for a rubber camp.

THE EDITOR'S BOOK TABLE.

LE CAOUTCHOUC EN INDO-CHINE ÉTUDE BOTANIQUE, INDUSTRIELLE, et COMMERCIALE. Par Camille Spire et André Spire. Paris: Augustin Challamel. 1906. Large 8vo. Pp. VII + 272. 8 plates.

ALTHOUGH latest on the list of rubber producing countries, French Indo China is not the least important. It is only a few years since the first rubber from this source reached any market, but exports from there already have reached 400 tons in a single year, and this without thorough exploitation of native resources or the development of plantations. It appears that a number of rubber species of value occur in the forests of the colony—*lianes*, or creepers, which attain a large size and yield liberally a rubber of good medium quality.

The botanical part of this work, contributed by Dr. C. Spire, of the French colonial army medical service, forms a monograph of no little interest and value, especially since several of the rubber vines he mentions are not described in any other single work, and few of them in any form readily accessible to the rubber trade. We may suggest, in passing, that the fact of the Indo-Chinese rubber plants being vines should not lessen interest in this new rubber district; vines as producers of Caoutchouc have been known for more than a century, and the commercial yield from them long has formed a large percentage of the world's consumption of this material.

Dr. Spire's collaborator is his brother, the secretary of an association with headquarters in Bordeaux and having for its object the exploitation of the rubber resources of West Africa. His share is the matter relating to the chemical properties of the Indo-Chinese rubber and its industrial applications. The joint authors have had in their work the coöperation and encouragement of some important members of the rubber trade in their home country, so that they have been able to make it in every respect a thorough and complete work, while the publisher has brought out the book in a fittingly handsome style.

It may be that one result of the publication of this book may be to stimulate an interest in the search for rubber in regions in the neighborhood of Indo-China, which may prove to have similar resources. By the way, the present issue of THE INDIA RUBBER WORLD contains a report on rubber on the island of Formosa, obtained from *lianes* similar to a species which is regarded in Indo-China as important.

VACUUM DRYING IN RUBBER MAKING.

THIS suggestion is made by Messrs. J. P. Devine Co. (Buffalo, New York), who are interested in the sale of the Passburg vacuum drying apparatus, which has been supplied to a number of rubber plantations in the Far East. "It is considered a most advantageous reform to wash and dry the rubber where it is grown, and not to ship it with all its vegetable and mineral impurities. Particularly the vegetable impurities are apt to lead to fermentation, and fermented rubber means perished rubber. We believe that the complaint of the rubber manufacturers, who buy the crude rubber and have it washed, as regards loss of weight in removing the dirt contained in the rubber, does not sufficiently take into consideration the damage done by such dirt during the time it was encased in the rubber." The "block" rubber, which has been bringing "record" prices in London, has been dried by the method above described.

NEWS OF THE AMERICAN RUBBER TRADE.

GENERAL RUBBER CO.—ELECTION.

At a recent meeting of directors of the General Rubber Co. (New York) the office of president, vacant since the resignation of Mr. William M. Ivins, was filled, and other officers elected, as follows:

President—SAMUEL P. COLT.

Vice President—LESTER LELAND.

Treasurer—JOHN J. WATSON, JR.

Assistant Treasurer—A. H. BROWN.

Secretary—SAMUEL NORRIS.

Assistant Secretary—JOHN D. CARBERRY.

General Manager—WILLIAM F. BASS.

The directors are Messrs. Colt, Leland, and Watson, besides the following: James E. Ford, E. C. Benedict, Walter S. Ballou, James Deshler, Anthony N. Brady, and Charles H. Dale.

An executive committee has been chosen, consisting of Samuel P. Colt, Lester Leland, Charles H. Dale, and John J. Watson, Jr. The General Rubber Co. was organized primarily for the purpose of purchasing the crude rubber used by the United States Rubber Co. It is not unlikely that from this time on the scope of the company will be even larger than it has been thus far, in that the management proposes also to sell crude rubber to the outside trade as well as to buy it for the use of the United States Rubber Co., the Rubber Goods Manufacturing Co., and their owned and controlled companies.

THIS YEAR'S AUTOMOBILE SHOWS.

The automobile show to be held by the Automobile Club of America at the Grand Central Palace, New York, will open on Saturday evening, December 1, and close on the evening of December 8. The show at Madison Square Garden, under the auspices of the Association of Licensed Automobile Manufacturers, will be held January 12 to 16. The Chicago show will be held, as last year, in the Coliseum and First Regiment armory, on February 2-6. The great English automobile shows have been held already, the Olympia on November 15-24, and the Stanley closing on December 1. The Paris show was held November 7-23.

THE MAPLE LEAF RUBBER CO.

The purchase was mentioned in the last issue of this Journal of The Maple Leaf Rubber Co., Limited, by the Canadian Consolidated Rubber Co., of Montreal. The Maple Leaf company, originally under another name, were the first to make rubber footwear in the province of Ontario. They removed to Port Dalhousie in 1891, occupying a new factory, which was burned on January 2, 1899. The factory was replaced by a new and larger plant, complete and well arranged for the company's specialty, the manufacture of rubber boots and shoes. The business of the company has been done under the title The Maple Leaf Rubber Co., Limited, since March, 1900, though their "Maple Leaf" trade mark had already become widely known in the Dominion trade. Previously the concern had been the Toronto Rubber Shoe Manufacturing Co. The capital of the company was increased in September, 1901, from \$250,000 to \$350,000. The latter was the price paid by the Canadian Consolidated Rubber Co., and the purchase is reported to have been a cash transaction.

HARTFORD RUBBER TIRE FEATURES.

The Hartford Rubber Works Co. have brought out a new non skid feature for pneumatic tires. It consists in embedding in the tread of a flat tread tire of ordinary pattern four parallel endless coils of helical spring. Being incorporated into the material of the tire during the manufacture, the portion of each coil which lies beneath the surface of the tread is a fixture, the vulcanizing process firmly attaching the rubber to it. In the event of the outer loops wearing down, there will still remain a series of inverted staples fixed in the tread. It is this wearing away that is looked for, the use of the spring being in a way, merely a convenient method of setting the staples into the tread. Their use saves the wear on the rubber in somewhat the same manner that nails in a boot save the sole and heel leather, as well as adding to the firmness of the footing.==The Hartford people have been preaching the gospel of larger tires for a year or more, in the belief that much unnecessary tire trouble is due to the use of tires too small for the duty demanded of them. They are now making tires of large size which are adaptable to standard rims of smaller size—for example, 5 inch tires are supplied for 4½ inch rims. The result is that the owner of a motor car, desiring to adopt larger tires may do so without changing or altering the rims.==The anti skid feature above mentioned is applicable also to solid vehicle tires. Besides, the Hartford company are making solid tires with sets of the helical springs in the base, instead of wire or fabric mesh, with the idea that the wires cling to a larger amount of the rubber than any fabric could do, and that the tire is thus made stronger. Their solid tires are made in single form for loads up to 10,000 pounds; for heavier loads the twin form is recommended.

TRADE NEWS NOTES.

In a letter to THE INDIA RUBBER WORLD an American rubber manufacturer writes: "We are not large users of foreign scrap. However, there are some grades that are getting quite scarce in this country, and we may be obliged to bury our prejudice."

=The B. & R. Rubber Co. (North Brookfield, Mass.) have a night force at work, to facilitate getting their factory in readiness for operation.

=That cushion tires for carriages have not gone out of fashion was proved by the excellent exhibit made by the Stein Double Cushion Tire Co. (Akron, Ohio) at the National Carriage Builders' Association show at Atlanta.

=Rubber tire exhibits were made at the National Carriage Builders' Association at Atlanta, on October 23-25, by a larger number of manufacturers than in any previous year. The convention was the largest yet held, and the industry was reported to be in a flourishing condition. Next year's convention will be held in New York.

=Major E. W. Harral, of the Fairfield Rubber Co., became ill just before the recent exhibition connected with the meeting of the Carriage Builders' National Association at Atlanta, and thus a familiar figure at this annual gathering was missing, as was his company's exhibit of carriage cloth. Major Harral, fortunately, is recovering.

=C. S. Van Auken has been appointed receiver of the Mexican Plantation Co. of Wisconsin, at La Crosse, Wis. The appointment was made by Judge J. J. Frit of the circuit court on October 27. He informs THE INDIA RUBBER WORLD: "It is not my intention to operate the plant in Mexico but simply to conserve the property for the benefit of the bondholders and creditors."

=Wallace L. Gough & Co. have entered the business of merchants in India-rubber, Gutta-percha, and Balata, at No. 108 Water street, New York.

=Mr. A. Valladares, of Peru, a nephew of President Pardo of that country, who has been for some weeks in New York, has returned home, taking with him Mr. George E. Heyl-Dia. The gentlemen are going to examine carefully a large wild rubber concession, owned by the father of the one first named, with the idea of at once taking steps to gather the rubber. The concession is a very large one, is stated to have millions of *Hevea* trees on it, and also some "Gutta percha," by which is meant doubtless Balata. Mr. Heyl-Dia will probably be absent for four months.

=Colonel Samuel P. Colt is reported to have purchased a controlling interest in the Bristol and Warren Water Works Co., which supplies the two Rhode Island towns mentioned, and also the town of Barrington, with water.

=The Pennsylvania Rubber Co. (Jeannette, Pa.) now have branch stores in New York, Philadelphia, Chicago, Boston, Buffalo, and Atlanta. About November 1 the New York branch will move into a large new building at No. 1741 Broadway, especially built for its convenience. The Boston branch will move from Oliver street to No. 20 Park square, where it will be in the center of the retail district.

=The following notice was posted at the factory of the Apsley Rubber Co. (Hudson, Massachusetts) on November 6: "The working hours of the Apsley Rubber Co., from this date will be from 7 A. M. to 12 M., and from 1 P. M. to 5 P. M., 54 hours a week, with no reduction in pay." This notice includes the employes in the last factory, box factory, and clothing department, as well as in the boot and shoe department.

=In a notice of a memorial service that took place at Dallas, Texas, during the recent convention of the International Association of Fire Engineers, all the papers that reported that event by some mistake inserted the name of Isaac B. Markey, of New York city, as one of those who had died during the past year. But Mr. Markey at the time was mingling with his friends in the convention, very much alive, as every one who has had business with the Eureka Fire Hose Co. knows to be his normal condition.

=Mr. F. Ephraim, formerly in the rubber goods business in San Francisco, is now in Mexico, interested in Guayule rubber. Though not connected with any rubber extraction company, he informs THE INDIA RUBBER WORLD that five such companies are paying a royalty for the use of his Guayule extraction patents.

=The Canadian Rubber Co. of Montreal have obtained from the city of Winnipeg orders for 5000 feet of 3 1/2 inch pressure hose for fire protection, and 5000 feet wax and gum treated "Keystone" fire hose.

=The 9 hour day went into effect on November 5 at the factory of the National India Rubber Co., and a week later at the factories of the Boston Rubber Shoe Co. The hours are from 7 A. M. to 5 P. M., instead of to 6 P. M., as formerly.

=A quantity of merchandise discovered in storage at Natick, Massachusetts, under suspicious circumstances, embraced rubber boots and shoes valued at \$8000 which were replevined by the Hood Rubber Co. The marks had been removed from the cases, and the goods were suspected to be part of the stock of a firm which failed at Natick recently.

=The Munger Vehicle Tire Co. on October 30 allowed a judgment to be entered against them, in a New York court, for \$11,881, in favor of Louis De F. Munger, formerly a director of the company, for breach of contract for services for five years from December 12, 1899, at a salary of \$3000 per year and a commission on the profits of the company. He sued the company for \$875 salary earned, and \$20,000 damages for dismissal, and a compromise was agreed upon at \$11,881. The company, organized to market a rubber tire invented by Mr. Munger, have not been in active business for some time.

Parker, Stearns & Co. (New York), in addition to their widely known lines of druggists' and stationers' sundries, are producing high grade seamless inner tubes for motor tires, under the "Alpha" brand.

=The formalities connected with the taking of title by The B. & R. Rubber Co. (North Brookfield, Massachusetts) to their factory site and buildings were completed on November 1.

=The Davidson Rubber Co. (Charlestown, Massachusetts) have awarded a contract for a two story addition to their factory, 53-69 feet.

=A British patent (No. 10,779 of 1906) has been granted to Addison T. Saunders, of Akron, Ohio, for improvements in pneumatic playing balls.

=Mr. John O. DeWolf, at one time assistant superintendent of the Boston Woven Hose and Rubber Co., has gone into partnership with Mr. John S. Bridges, Jr., under the firm name of John O. DeWolf & Co., who are located at No. 159 Devonshire street, Boston, their specialty being mechanical, electrical, and mill engineering. One of the first commissions that Mr. DeWolf has taken on is the installing of new machinery for the Boston Woven Hose and Rubber Co. (Cambridgeport, Mass.)

=One of the more recent acquisitions of the machine works of John Royle & Sons (Paterson, New Jersey) is a show room in which a line of their tubing machines has been effectively displayed, together with a representative assortment of fixtures.

The Consumers' Rubber Co. (Bristol, Rhode Island) have reduced the work day at their factory from 10 to 9 hours, without changing the wage scale. The company are reported very busy in insulated wire work.

The baseball team of the "Alice" mill of the Woonsocket Rubber Co. won the championship in the league existing this year among the employes of the different factories at Woonsocket, and on a recent Saturday evening Superintendent Schlosser, of the rubber factory, by direction of President Samuel P. Colt, gave a banquet to which all the members of the league were invited. The affair was enjoyed by 230 guests.

Mr. J. Schuurmann, an extensive rubber scrap merchant in London, was a recent visitor to the trade in the United States.

The Boston Woven Hose and Rubber Co., Joseph V. Selby, Pacific coast manager, are now located at No. 48 Stewart street, San Francisco.

A fire at the works of The Canadian Rubber Co. of Montreal, Limited, on the evening of November 10, caused a loss estimated at \$10,000. It is supposed to have been caused by spontaneous combustion, and involved the drying and stock rooms.

The Empire Rubber Manufacturing Co. have been elected to membership in the New York Board of Trade and Transportation.

=The Dunlop Tire and Rubber Goods Co., Limited (Toronto, Ontario), were the first concern in Canada to adopt the simplified spelling in commercial literature. Because of this "Canada's national rubber supply house" is "lookt" upon and "talkt" about more than ever. That their tires may be easily "attacht" and "detachd," that the quality of rubber in them cannot be "surpast" and that lighter tires are "shipt" to the dealer in continuous lengths, makes more interesting reading than such advertising generally does. Whatever the criticism of the new spelling may be, the readiness to test it shows the progressiveness of this company.

-The well known firm of Pirelli & Co. (Milan, Italy), general India rubber, Gutta percha, and insulated wire and cable manufacturers, are making negotiations for the establishment of a selling agency in one of the larger cities of the United States.

= "Want to take a ride on *good* tires?" is the pertinent question propounded by a dapper little laddie who ornaments an advertising panel that is being distributed by Morgan & Wright (Detroit, Michigan). It is neat advertising withal, and will serve as a frequent reminder that "Morgan & Wright tires are good tires."

=Dow Tire Co., the incorporation of which was reported in the last INDIA RUBBER WORLD, have a temporary office at No. 104 West Forty-second street, New York. Alexander Dow is president, Harry D. Gue vice president, and Sidney R. Perry secretary and treasurer.

=The Universal Tire Manufacturing Co., of New York, filed incorporation papers at Albany on October 31, 1906; capital \$100,000. Incorporators: F. Yeager, F. S. Durand, D. Buchanan, R. Emison and W. M. Palmer.

-The name of Colonel Samuel P. Colt is mentioned frequently in connection with the forthcoming choice of a United States senator from Rhode Island.

-The Kansas Rubber Co. (Olathe, Kansas) are issuing advance catalogues calling attention to the leading articles that will be listed in their complete catalogue that will follow. The list includes automobile tire treads and repairs, vehicle tires, valves, packing, tubing, oil well and gas well supplies, typewriter supplies, rubber springs, bumpers, anti rattlers, fruit jar rings, mold work of all descriptions, electric tape, and mechanical specialties.

-The National India Rubber Co. had a good display of carriage cloth at the carriage convention show at Atlanta, in charge of Superintendent Elwyn C. Fish.

=A set of 30 x 3 1/2 inch International Clincher tires, made by The International Rubber Co., was used on a Maxwell touring car on a recent 3000 non stop run, with no "tire trouble" beyond one small nail puncture, and this did not cause the tire to leak.

-The city of Monterey, Mexico, it is rumored, is to become the home of a rubber factory, the product of which is to be tires, and general mechanical rubber goods.

=The shareholders of the General Electric Co. have voted to increase the capital stock by \$20,000,000, making the total \$80,000,000, the increase to be used for extensions and additional working capital.

Snow has appeared in various parts of the country during the month, in many places, in such depths as to stimulate the rubber footwear trade to great activity. The snowfall at Spartanburg, South Carolina, and in the neighboring region was unprecedented for the time of year.

The twin tires of the Firestone Tire and Rubber Co. (Akron, Ohio) are now known as the Dual tires. This change is in nomenclature only, as the output of tires will have all the qualities that have heretofore made them so well known. The Boston branch of this company, by the way, was not one of the heavy losers by the recent fire in that city, as was reported by the Associated Press. They were formerly located on Beverly street, where the fire took place and as some of the old signs remained the erroneous report is in this way accounted for. It will be recalled that they moved to Park Square some months ago.

=Ekert's high resistance materials are receiving especial attention in the advertising of the Dayton Rubber Manufacturing Co. (Dayton, Ohio). These materials are made by the mechanical combination of long fiber asbestos with rubber. Strength, elasticity, durability, and resistance to the action of the highest temperatures are the qualities that this combination of compounds insures. It is claimed for the Ekert high resistance unvulcanized steam packing that it will pack any kind of a joint under any and all pressures of water, steam, acid, oils, ammonias, etc., and that it can be placed in a joint that is either hot or cold.

=Among the intending exhibitors at the New York and Chicago automobile shows who have secured space are The Republic Rubber Co., Pennsylvania Rubber Co., The Diamond Rubber Co., Morgan & Wright, The Firestone Tire and Rubber Co., Pantasote Co., International Rubber Co., Hartford Rubber Works Co., Fisk Rubber Co., Goodyear Tire and Rubber Co., The B. F. Goodrich Co., Joseph Dixon Crucible Co., Michelin Tire and Supply Co., Electric Rubber Manufacturing Co., Eugene Arnstein, Continental Caoutchouc Co., Swinehart Clincher Tire and Rubber Co., and the G. & J. Tire Co.

=The business for 1906 of the Western Electric Co. (Chicago), it is stated, will amount approximately to \$70,000,000. The company was formed in 1881. The sales in 1884 amounted to \$1,534,784. The business has increased eight fold in 10 years. The capital of the company is now \$15,000,000, and is to be increased soon to take care of the enormous increase in business.

=John MacMillan and Charles G. Fawkes are no longer connected with The Milwaukee Rubber Works Co. (Cudahy, Wis.) in any capacity. They were mentioned in the last INDIA RUBBER WORLD as planning to start a new rubber tire factory.

=There was recently reported the shipment from Nicaragua of 3000 pounds of plantation rubber, by Mr. John C. Horter, whose earlier shipments, on a smaller scale, have been noted in this Journal.

=Michelin Products Selling Co., Inc. (New York), state that the best discount on their tires which they extend to others than jobbers is 5 per cent. from current price lists, for payment within ten days.

=Harris Tire and Rubber Co. filed articles of incorporation in Maine on November 15, 1906, with \$1,000,000 capital authorized. Incorporators: J. E. Mantu (president), C. F. Eaton (treasurer), and C. D. Fullerton, all of Portland, Me.

=The Firestone Tire and Rubber Co. (Akron, Ohio) will exhibit at the Grand Central Palace automobile show in New York, December 1-8, in addition to the solid side wire motor tire, single type, with which they have made the motoring world familiar, the same tire in the new "Dund" form, and a general line of pneumatic tires.

=The Boston Rubber Shoe Co. are doing some very artistic advertising by means of the popular post cards. These represent the landmarks in and around the Hub: the Old South Church, the Old North Church (made famous by Paul Revere's midnight ride), King's Chapel (where Washington attended), Bunker Hill Monument, the Christian Science Church, Faneuil Hall, etc. The cards are delicately tinted and some appropriate bit of unobtrusive advertising for the company appears on each. For instance, on the card bearing Faneuil Hall, we are informed that "'Boston' rubbers are cradles of health," and on the one on which the Christian Science Church appears is the simple statement that "'Boston' rubbers are the science of health."

=The corporate title Acme Rubber Manufacturing Co. has been adopted by the company known formerly as The Eureka Rubber Manufacturing Co. of Trenton, N. J.

=Mr. W. J. Gorham, president of the Gorham Rubber Co. (San Francisco), has returned from a trip to Germany, where he went to see how matters stood with his insurance in the Rhine-Moselle company. He says: "I went to see about \$25,000 of my own and \$10,000 for The B. F. Goodrich Co., and I did not have to come down a particle on the policies."

=Coupons on the 6 percent. purchase money bonds of the Tehuantepec Rubber Culture Co. were payable on and after December 1 at the office of the Knickerbocker Trust Co. (New York).

=Fire on the morning of November 23 destroyed the storehouse of the Plymouth Rubber Co., on Lincoln street, Stoughton, Massachusetts.

=In the award of the tire contract for the Cadillac cars for 1907, the Hartford Rubber Works Co., and Morgan & Wright are sharing equally, one-half the contract being awarded to each concern.

=The firm of H. H. Bridgewater & Co. (Akron, Ohio) have become a corporation under the laws of Ohio, with the title The Bridgewater Machine Co. They manufacture molds, dies, and machinery for the rubber industry. E. H. Mason of The B. F. Goodrich Co., is president; Freeman Mason, of the same company, vice president; and H. H. Bridgewater, secretary and treasurer.

=One of the largest tire exhibits at the Grand Central Palace automobile show (December 1-8) will be that of the Hartford Rubber Works Co., in space No. 1. There will be seen all the products of the company, including several distinctly new features, which doubtless will prove of much interest to the trade.

=Plans are under way for the reorganization, with increased capital, of the Reinforced Hard Rubber Co., and the removal of the factory from Jersey City to Baltimore. The company make telephone receivers from material prepared under patents granted to Dr. W. R. Sine.

Mr. Charles F. Flint, formerly president of the rubber trade, has purchased 100 acres of land on New York 100 acres of land for the reported price of \$50,000. It is said to be his intention to build a residence on the property.

The directors of the Boston Woven Hose and Rubber Co. have declared a semi-annual dividend of 8 per cent. on the preferred stock, payable December 1.

Suits for injunction have been filed recently against the importers into this country of foreign made rubber cored golf balls. The first of these suits slated for trial, Haskell Golf Ball Co. v. Frank L. Shoenberger, is set down for hearing in the New York supreme court on November 20. Before the case was called, however, a settlement was reached out of court, by the terms of which the defendant agrees to recognize the validity of the Haskell patent. In other words, imported golf balls infringing this patent can be sold only by the payment of royalties to the patentee.

President Van H. Cartmell, of The Consolidated Rubber Tire Co. (New York), is pretty well known in the rubber trade as one of the leaders in the solid rubber tire business. It is not perhaps as well known that he has a son, Carl P. Cartmell, who as treasurer of the Para Recovery Co. is also making a place for himself and a reputation for his concern in the rubber business.

The Niagara Rubber Co., the incorporation of which was reported last month, are installing a plant at Lockport, New York, where will be carried on the manufacturing done hitherto by the Amazon Rubber Co., of Jamestown, New York.

The Stamford Rubber Supply Co. (Stamford, Conn.) were incorrectly reported in several newspapers as having been burned out in the large fire of November 15. Their premises adjoined the principal building burned, but most fortunately was saved by strenuous work on the part of the firemen.

At the recent sale of the plant and premises of the Atlantic Rubber Shoe Co., announcement was made that it would be subject to an attachment for \$25,000. This was placed upon the property on May 22 last, in the suit of Ethan H. Cutler, of Boston, to recover money claimed to be due him for services rendered the company while in their employ as selling agent, between April, 1904, and October, 1905.

Fire on November 15 destroyed the factory at Stamford, Connecticut, of the Atlantic Insulated Wire and Cable Co. Building, machinery, and stock were a total loss, but covered by insurance. The company are actively engaged in planning for a new plant, on their own property, situated on the canal and railroad at Stamford, and expect to be under full operation within 60 days.

The United States Rubber Co. have not acquired the Glenmark Knitting Mills, as might be inferred from some published reports.

The Iroquois Rubber Co. (Buffalo, New York), a jobbing company of which Frank C. Howlett is president and treasurer, will occupy a new five-story building, for which plans have been drawn, about May 1 next. The company have outgrown their present quarters, No. 15 Pearl street. The new building, to front on Washington street, will be 70 x 140 feet.

The Simon Hard Rubber Corporation, Bridgeport, Conn., makers of insulating specialties, are reported to have a good export trade.

RUBBER RECLAIMERS' CLUB.

The Rubber Reclaimers' Club met on November 1 at the Astor House, New York, and elected Arthur W. Clapp, president; Francis H. Appleton, treasurer; and R. W. Seabury, secretary. For an executive committee they elected Rudolph Loewenthal, John K. Mitchell, J. A. Lambert, and Edward R. Sollday. They also adopted a set of by laws. At this meeting the original scheme of the club was somewhat changed. Instead of admitting scrap dealers to membership, it has been decided to invite only those who manufacture reclaimed rubber to become members of the association. The next meeting of the club will be held early in December in Boston.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES RUBBER CO.:

DATES	Common.			Preferred		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Oct. 20.	8,130	50 ³ / ₄	47 ¹ / ₈	1,110	100	105
Week ending Oct. 27.	5,055	50 ¹ / ₂	47 ¹ / ₂	3,600	108 ¹ / ₄	105
Week ending Nov. 3.	3,950	50 ³ / ₈	49	2,867	107 ³ / ₈	105 ¹ / ₈
Week ending Nov. 10.	2,550	50 ³ / ₄	49	910	107 ³ / ₈	106 ¹ / ₂
Week ending Nov. 17.	12,000	51	48 ³ / ₈	1,900	107	106
Week ending Nov. 24.	10,020	53 ¹ / ₂	51 ¹ / ₄	1,200	108 ¹ / ₈	106 ¹ / ₂

SECOND PREFERRED.

WEEK ending—Oct. 20.	Oct. 27.	Nov. 3.	Nov. 10.	Nov. 17.	Nov. 24.
Sales.....	10	500	20	100	100
High.....	78 ¹ / ₂	77	77	75 ¹ / ₂	78
Low.....	78 ¹ / ₂	76	77	75	78

ATLANTIC RUBBER SHOE CO.'S PLANT SOLD

The plant of the Atlantic Rubber Shoe Co., and the land occupied by it, at Cranston, Rhode Island, was sold at auction on November 2, to William H. Perry, for \$137,000. The property, sold as one lot, was described as consisting of a three story brick mill, 268 x 64 feet; boiler house 56 x 36 feet, connected; three story brick machine shop, 148 x 64 feet; three 175 hp. boilers; Allis tandem compound engine, 450 hp.; electric plant, sprinkler system, pumps and other equipment, and the mill machinery; about 11 acres of land, on the Pawtuxet river. The buildings were begun in May, 1903, and the factory put in operation within a little less than a year.

AMERICAN TIRES AT THE CUP RACE.

At the recent Vanderbilt Cup race, The Diamond Rubber Co.'s were the only American tires used. The confidence shown by this company in the quality of its product was justified at the Elimination contest, held beforehand, for the selection of the American team. On that occasion, when twelve racing machines traveled at high speed over a total of nearly 3000 miles, it is stated that no defect or imperfection developed in a single tire, and no serious mark of wear, except that two tires punctured and ran flat. But before the race proper the weather changed, making trouble for all the contestants. After the event The Locomobile Co. of America, who had a car entered wrote to The Diamond Rubber Co.:

Owing to the slippery condition of the course the morning of the Vanderbilt race, it was necessary to equip our car with three non skid tires; two on the rear and one on the front. We knew these tires to be inferior to your regular tires when we put them on the car, as we had been so advised by your firm, and while fully aware

of this fact, we were compelled to use them in order to keep our car in the road at speed.

The "tire trouble" mentioned in the newspaper reports was due to the non skid tires. As wheels were locked at terrific speed to take sharp curves in the course the rivets of the non skid tread bands were pulled loose, and replacements were necessary. But there was no record of blowouts or other troubles in heating tire weakness or defects. And the fastest round made by any contestant during the race was by Tracy, after he had thrown away the non skids and used the standard Diamond tires.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE Rubber Products Co., incorporated in Ohio in October, with \$100,000 capital, for the purpose of acquiring the plant and business of the Alden Rubber Co., have about completed their plans for the operation of the factory, and will take possession in the near future.

Officials of the Faultless Rubber Co. announce that with favorable conditions the work on their buildings at Ashland, Ohio, will have been completed by Christmas, and that the company can move from Akron to their new location immediately after the first of the year. The new buildings will be five in number. The largest will be 200 x 50 feet, and four stories in height, and the others 100 x 75 feet, and two stories high. All are being built of brick, and are fireproof. The company will invest \$50,000 in machinery of the latest pattern. All of the heavier machinery is at Ashland at the present time. The capacity of the Ashland plant, which has been operated for three years in connection with the Akron factory, will be tripled when the two are consolidated.

The capital stock of the Aladdin Rubber Co., which has a reclaiming plant at Barberton, has been increased this week from \$100,000 to \$250,000. Secretary C. M. Gilbert is authority for the statement that a large addition is to be built, and the company's facilities largely increased. Work will commence as soon as the weather conditions will allow. The company organized a little over a year ago with a new and secret process for reclaiming rubber, and has met with great success.

After a six weeks' trip through Europe, President H. S. Firestone, of the Firestone Tire and Rubber Co., with his wife, has returned to his home in Akron, firmly convinced that American methods of manufacture are superior to those used by European makers. "This is especially true," says Mr. Firestone, "in the manufacture of the heavy truck tires to which we devote most of our attention. My trip to Europe was made chiefly to study tire construction, and I did not find one detail of the business which I considered good enough to adopt in our factories. I believe that European manufacturers could be taught several things by Americans in the building of heavy tires."

The latest census bulletin shows some interesting statistics regarding the manufacturing industries in Akron. It shows an increase in the capital of local industries of 23 per cent. Akron factories are said to have a capital of \$20,188,351, and to employ 10,000 wage earners. The annual wages paid are \$4,443,768, an increase of 163.7 per cent. in five years. The value of the annual product, two-thirds of which is rubber goods, is \$34,004,243.

AMERICAN CONCESSIONS IN THE CONGO

IT is announced that some very important concessions in the Congo Free State have been obtained by American capitalists, though full details must await certain official and legal formalities. But it is safe to assume that the new concessions involve neither the taking over of King Leopold's interests in the Congo, nor the displacing of any *cessionnaires* holding rights hitherto in that region. From the meagre details made public it would appear that the Americans have been granted a concession to work and trade in rubber in certain sections of the *Domain privé* (national domain) not exploited heretofore, just as concessions have been obtained and developed by the Belgians for years past. In other words, there is one more rubber trading concession on the list—another district is to be opened—and what distinguishes it particularly is that it is held by Americans, and by a syndicate commanding enormous wealth.

One of the first acts of the Congo Free State was to reserve, as a national domain, all lands not under cultivation. The reservation would of course embrace the rubber areas, and these have been worked under concessions, each having definite territorial limits. It would appear that the concession to the Americans covers (1) a large area on the south bank of the Kassai river, extending to its junction with the Congo, and (2) a strip along the Congo, beginning some distance above the mouth of the Kassai. The Kassai, by the way, is the largest of the affluents of the Congo, and the valley drained by it has produced a large share of the rubber coming from the Free State. The profitable Kassai syndicate—the "rubber trust" of Central Africa—operates throughout the great region watered by the Kassai and its affluents, but its sphere of influence does not extend to the mouth of that river.

The rubber concession referred to will be taken over by the American Congo Co., incorporated October 17, 1906, under the laws of New York, with a nominal capitalization of \$50,000, and with a temporary board of directors. The actual capitalization will be determined when the amount required has been agreed upon.

It is understood that the new *cessionnaires* will not confine their interest to rubber. For years the desirability has been discussed of railways to connect more closely the basins of the Kassai and some other streams, and the American syndicate interested in rubber is expected to form a second company for railway building and operation. Still another probably will be organized for developing a mining concession. The Congo country is known to be rich in minerals, and the syndicate is understood to have had the advice of John Hays Hammond, probably the ablest living mining expert.

This is not the first instance of American interest in the Congo. Stanley, the practical discoverer of the great river, was an American. The United States were first to recognize the Congo Free State when it asserted statehood. One of the first two trading companies to gain concessions in the Congo was organized and headed by General Sanford, an American. Subsequently, however, all trace of American influence and capital disappeared from that region.

Colonel Samuel P. Colt of the United States Rubber Co. said in an interview that neither he nor his company was interested in the American Congo Co. He welcomed its ap-

pearance because manufacturers were benefited by everything that tended to increase or cheapen the supply of raw rubber. He was glad to hear that the new company meant to introduce improved methods of preparing rubber. Colonel Colt said further:

"The concessions of the American Congo Co. do not conflict with negotiations by the United States Rubber Co. in the Congo Free State or elsewhere, but supplement them. High cost of the crude article tends to restrict the manufactured output, since that price is exactly one half of that of the finished product. I should like to emphasize decidedly the fact that the United States Rubber Co. desires to encourage anything that tends to increase the supply and lessen the cost of the crude article."

THE RUBBER "VALORIZATION" SCHEME.

THERE has been introduced into the Brazilian congress a bill providing for a "valorization" scheme for rubber, similar to that for coffee which becomes effective for coffee on December 1. The congress adjourned shortly after the introduction of the bill, without action on the bill, but the subject doubtless will be revived. The new president, Dr. Afonso Pena, is reported to be favorably disposed toward the project.

The coffee valorization plan is meant to protect the interests of planters by establishing a minimum price that will at least cover the expenses of production, and thus guard them against loss. The government, in effect, is pledged to buy coffee at the official price. The original plan involved the raising of a loan in Europe to supply funds for such government purchases, but this was changed to the extent of interesting large commercial firms and bankers identified with the coffee trade in Europe and America, who agree to create the necessary loan. The proposition is essentially a banking one, the capital being loaned to the state of São Paulo, the chief coffee state. The amount named in the despatches is \$20,000,000. The government's purchases of coffee will be shipped to designated agents at New York, Havre, and Hamburg.

Naturally the rubber producers make the same claim to consideration at the hands of the government. Producers or owners of rubber, under the valorization proposal, would be entitled to deposit it at designated docks and to receive payment from the government at the price of the day. The right of exportation would be reserved to the rubber producing states—as Pará and Amazonas—and would be carried out in their behalf. The general government would be authorized to take up a home or foreign loan of not more than \$50,000,000 with which to finance purchases of rubber.

One of the largest rubber importers in the United States says: "Before such a plan as that proposed can be brought into play it will be necessary to negotiate a loan and \$50,000,000 at least will be needed. London bankers, however, are not ready to furnish the funds for such a scheme as they consider it poor policy for a government to enter into mercantile business."

THE Alford Rockwood Co., an importing firm at Bogota, write to the bureau of manufactures at Washington that from inquiries they have made they have learned that there is plenty of Chicle gum in Colombia.

TEXTILE GOODS MARKET.

THE demand for cotton cloth by rubber manufacturers is almost irrespective of the class of goods made, never was stronger than at present. The great majority of the mills have consumed more than the proportionate quantity due on their contracts and there is no abatement in sight. Reports on all sales indicate increased strength. A competent authority says:

"Lately there has been a tendency to adopt more conservative views in regard to the prospective size of the crop to figures ranging about twelve to twelve and one half million bales maximum. With the world's spinners requiring over 12,500,000 bales of good spinning American cotton to meet their consumption for the year, such a crop would make for a 11 cent cotton reasonable price, especially in view of the large quantity of low grades and the heavy premiums which are certain to develop as the season progresses to its close for the higher grades."

The strength of spot prices dominates the speculative market although it is not speculation which is raising prices according to a reliable source, which we quote:

"It is not speculation, however, that is raising prices. It is, as already stated in these columns, the commercial situation of the actual staple, the facts of legitimate demand and available supply. These are the basic influences which predominate now as they have for some weeks past, and judging from present appearances they are likely to continue to be paramount for some time to come if not throughout the entire season."

HARBURG-VIENNA COMPANY'S REPORT.

THE business report of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien for the year ended June 30, 1906, shows a smaller volume of business than usual and lower profits, in connection with which account must be

taken of the extensive fire in their Harburg factory in October of last year. The work of recovery has proceeded satisfactorily. The company's expenditures during the year include: New buildings, *M* 790,317; machinery, *M* 1,269,719; utensils and furniture, *M* 215,328. The gross profits of the goods account for the business year ending June 30 last amounted to *M* 2,582,193.10 [= \$611,540.50], against *M* 3,910,115.00 of the preceding year, and *M* 2,720,948.29 in the year 1903 op. The net profit for the last business year amounted to *M* 505,400.11 [= \$120,285.32] against *M* 850,522.81 last year.

Antwerp.

RUBBER ARRIVALS AT ANTWERP.

NOVEMBER 13. By the *Bruxellesville*, from the Congo:

Bunge & Co. (Société Générale Africaine) <i>bruto</i>	155,000
Do (Chemin de fer Grand Laes)	1,000
Do (Comptoir Commercial Congolais)	16,000
Do (Société Anversoise)	78,000
Do (Société A B I R)	3,500
Do (Comité Spécial Katanga)	2,000
Société Coloniale Anversoise (Belge du Haut Congo)	3,000
Do (Cie de Lomami)	6,500
Do (Süd Kamerun)	5,000
Do	2,500
Messrs. L. & W. Van de Velde (Cie du Kasai)	75,000
Do	7,000
M. S. Cols (Société Baniembe)	300
	357,800

ANTWERP RUBBER STATISTICS FOR OCTOBER.

DETAILS	1905	1904	1903	1902	1901
Stocks, Sept. 30, <i>bruto</i>	566,683	566,735	804,482	421,858	456,711
Arrivals in October	599,727	555,920	363,490	944,274	340,598
Congo sorts	111,889	391,112	293,905	863,249	306,228
Other sorts	64,508	164,808	69,585	81,034	44,370
Aggregating	1,076,410	1,122,655	1,167,972	1,366,132	797,309
Sales in October	455,329	508,172	457,112	489,495	447,171
Stocks, October 31	621,051	554,453	710,860	876,637	350,138
Arrivals since Jan. 1	4,762,232	4,615,168	4,845,311	4,726,430	4,369,518
Congo sorts	3,792,744	3,543,276	3,995,454	4,277,903	4,031,632
Other sorts	1,089,488	1,071,892	849,857	449,427	337,886
Sales since Jan. 1	4,876,338	4,602,046	4,745,351	4,507,895	4,434,089

REVIEW OF THE CRUDE RUBBER MARKET.

PRICES for the most part show little change from the quotations printed a month ago. For fine Pará, indeed, there is little change from the prices ruling a year ago. The condition of the rubber industry during the year has been one of steady activity, and the trade in raw material has shown an unusual regularity in the matter of supply and demand. The chief exception has been in the matter of Caucho and coarse Pará grades, which have advanced materially during the year. The explanation given in the trade is that a smaller percentage of the production in the Amazon valley of late has been coarse Pará, and this has led, not only to higher prices for this class of rubber, but to an increased demand for other medium sorts.

At the Antwerp sale of November 10 the greater part of the 222 tons offered found buyers at an advance over the inscription prices of 30 to 4 francs per kilogram.

The arrivals at Pará, including Caucho, since the beginning of the crop season have been above the average in recent years, though scarcely as large as for the same period last year. The figures follow:

	1903	1904	1905	1906
July	1280	1250	1450	1840
August	1230	1260	1390	1690
September	2010	1780	2200	1930
October	2440	2820	3580	2965
November	2980	2800	2890	a 1580
Total	9940	9910	11,420	10005

[a To November 10, 1906.]

Following is a statement of prices of Pará grades, one year ago, one month ago, and on November 28—this date:

PARA.	December 1, '05.	November 1, '06.	November 28.
Islands, fine, new	119@120	119@120	119@119½
Islands, fine, old	none here	none here	none here
Upriver, fine, new	122½@123½	124@125	123@124
Upriver, fine, old	none here	128@129	127@128
Islands, coarse, new	71@72	72@73	71@72
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	90@91	96@97	97@98
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	73@74	77@78	76@77
Caucho (Peruvian) ball	88@89	95@96	95@96
Ceylon (Plantation) fine sheet		139@140	136@137

Bordeaux.

Old Rubber Boots and Shoes—Domestic	10	(a)	0.14
Do Foreign	10	(a)	0.14
Pneumatic Bicycle Tires	7 1/2	(a)	7.4
Automobile Tires	10	(a)	10.8
Solid Rubber Wagon and Carting Tires	8	(a)	8.7
White Trimm'd Rubber	11 1/2	(a)	11.3
Heavy Black Rubber	5 1/2	(a)	5.8
Air Brake Hose	4	(a)	7
Fire and Large Hose	8 1/2	(a)	5.7
Garden Hose	2 1/2	(a)	2.4
Matting	1 1/2	(a)	1 1/2

long estate, brought 5s. 8¹/₂d. [\$1.407⁵/₈]; crepe from Cnloden (in Ceylon) brought 5s. 8¹/₂d. Highest price for plantation at same date last year, 6s. 1¹/₄d. [\$1.485¹/₂]. Fine Para to-day at same figures as one year ago—5s. 2¹/₂d. [\$1.25⁵/₈] = "Three packages *Castilloa* rubber from Java offered and "bought in."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

November 3. -By the steamer *Dominic* from Manaus and Pará :

IMPORTERS,	Fine	Medium.	Coarse.	Cancho.	Total.
General Rubber Co.	247,000	67,000	154,500	.....	469,400
A. T. Morse & Co.	107,000	11,000	51,500	1,400	172,100
Neale & Co.	10,500	1,700	50,400	20,500	91,900
N. Y. Commercial Co.	48,600	9,000	16,200	.....	73,800
Edmund Reeks & Co.	25,200	5,000	10,200	.....	40,400
P. dos Santos.	19,400	4,300	13,400	.....	37,100
Coel & Arnold.	32,900	32,900
Hagemeyer & Bruhn.	19,200	3,600	22,800

Total.....	470,700	99,800	342,000	21,900	9,100
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November 13.—By the steamer *Cearense*, from Manaus and Pará:

General Rubber Co., . . .	146,200	46,100	74,800	790	272,800
N. Y. Commercial Co., . .	100,500	22,400	61,400	1,200	185,500
Pool & Arnold,	22,500	6,100	113,600	7,500	150,700
Edmund Reeks & Co., . .	59,800	7,000	18,900	—	85,700
Neale & Co.,	32,200	11,500	21,500	—	65,200
A. T. Morse & Co., . . .	33,500	6,600	27,900	—	68,000
Hagemeyer & Brunn, . .	28,700	—	23,100	—	51,800
C. P. dos Santos,	8,900	6,100	9,300	—	24,300

Total..... 432,300 105,800 355,500 10,400— 904,000

NOTE.—The steamer *Guangyue* from Para, is due at New York, November 26, with 600 tons Rubber and 25 tons Cauchou.

PLANTATION RUBBER AT AUCTION.

OCTOBER 26.—The quantity of plantation rubber offered was less than at the last few auctions. Bidding generally was strong and prices showed a slight improvement. The highest figure was 5s. 9½*d.* [= \$1.41½] for an exceptionally fine parcel of crepe rubber from the Jebong estate, in Perak (Malay States). Among the Ceylon offerings some particularly good biscuits from Heatherley estate realized 5s. 7½*d.* [= \$1.37½]. The average, for all grades of Plantation was 5s. 2¼*d.*, against 5s. 1¼*d.* at last auction. Fine hard Para to-day, 5s. 3*d.* Highest price for fine Plantation this date last year, 6s. 0¾*d.* [= \$1.47½].

NOVEMBER 9.—The sale to day of plantation rubber was one of the largest yet seen at these auctions—302 packages, weighing something over 20 tons. There was a slight weakness in the bidding for sheet; no "block" was offered. Fine crepe, from Je-

PARA RUBBER VIA EUROPE.

CENTRALS—Continued

		POUNDS
Oct. 12.—By the <i>Gasconne</i> = Havre :		
Poel & Arnold (Fine)		68,000
Oct. 25.—By the <i>Wallensee</i> = Hamburg :		
Poel & Arnold (Fine)	45,000	
A. T. Morse & Co (Coarse)	10,000	55,000
Oct. 29.—By the <i>Umbria</i> = Liverpool :		
General Rubber Co. (Fine)	60,000	
New York Commercial Co. (Fine)	50,000	110,000
Oct. 29.—By the <i>Blucher</i> = Hamburg :		
New York Commercial Co. (Fine)	9,000	
New York Commercial Co. (Caucho)	15,000	24,000
Oct. 30.—By the <i>Zerland</i> = Antwerp :		
Poel & Arnold (Fine)		13,500
Oct. 31.—By the <i>George</i> = Liverpool :		
A. T. Morse & Co (Fine)		13,500
Oct. 31.—By the <i>Canonia</i> = Liverpool :		
New York Commercial Co. (Fine)	37,000	
General Rubber Co. (Fine)	7,000	44,000
Nov. 1.—By the <i>Oceanic</i> = Liverpool :		
A. T. Morse & Co. (Fine)	18,000	
New York Commercial Co. (Fine)	9,000	27,000
Nov. 3.—By the <i>Barbours</i> = Havre :		
Poel & Arnold (Fine)		80,000
Nov. 5.—By the <i>Financé</i> = Mollendo :		
W. R. Grace & Co. (Fine)	2,000	
W. R. Grace & Co. (Caucho)	12,500	14,500
Nov. 8.—By the <i>Cette</i> = Liverpool :		
Poel & Arnold Coarse		5,000
Nov. 9.—By the <i>Pennsylvania</i> = Hamburg :		
Poel & Arnold (Fine)		11,000
Nov. 12.—By the <i>Kronland</i> = Antwerp :		
New York Commercial Co. (Fine)		24,500
Nov. 13.—By the <i>Ammonia</i> = Liverpool :		
A. T. Morse & Co. (Fine)		17,000
Nov. 16.—By the <i>Rafana</i> = Hamburg :		
Poel & Arnold Coarse	10,000	
General Rubber Co. (Fine)	2,000	12,000

G. Amsinck & Co.....	6,000	
A. N. Rotholz.....	2,500	
Eggers & Heinelein.....	3,000	25,500
Oct. 22.—By the <i>Montenka</i> = London:		
General Rubber Co.....		5,500
Oct. 22.—By the <i>Advance</i> = Colon:		
Hazel, Feltman & Co.....	10,200	
New York Commercial Co.....	8,700	
G. Amsinck & Co.....	3,400	
E. V. Hartman Co.....	1,400	
E. B. Strout.....	1,500	
W. H. Coolidge.....	1,400	
Mann & Emdon.....	1,100	
Wessel, Kuleinkamp Co.....	900	
Meyer Hecht.....	800	
R. G. Barthold.....	500	
W. Loefer & Co.....	500	50,000
Oct. 22.—By the <i>Seguana</i> = Tuspan, etc.:		
E. N. Frihals Co.....	2,000	
Graham, Hinkley & Co.....	1,000	
Ferdinand Ramos.....	800	500
Oct. 22.—By the <i>Italian Prince</i> = Bahia:		
American Commerce Co.....		11,500
Oct. 22.—By the <i>Prins Willem</i> = Colombia:		
Escobar & Gorgorza.....	4,000	
A. Held.....	1,500	
Kunhardt & Co.....	1,500	
I. A. Pauli & Co.....	1,200	
Colombian Trading Co.....	1,000	
United Fruit Co.....	1,500	
Andreas & Co.....	1,000	
Isaac Brandon & Bros.....	800	
Graham, Hinkley & Co.....	1,000	
Suzarte & Whitnev.....	1,000	14,500
Oct. 21.—By the <i>El Dia</i> = Galveston.		
Continental & Mexican Co.....		50,000
Oct. 18.—By the <i>Panama</i> = Colon:		
Lawrence Johnson & Co.....	11,000	
Out. Gerdan.....	10,000	
Hazel, Feltman & Co.....	7,200	
A. Santos & Co.....	4,000	
Dunmest Bros. & Co.....	3,200	
Charles F. Griffin.....	1,000	
G. Amsinck & Co.....	900	
Moske & Co.....	800	
America Trading Co.....	800	
Andean Trading Co.....	500	50,000

CENTRALS=Continued

Oct. 20.—By the <i>El Siglo</i> =Galveston:	
Continental & Mexican Co.....	30,000
Oct. 20.—By the <i>Yokama</i> =Colon:	
Hitzel, Feltman & Co.....	17,500
G. Amsinck & Co.....	1,000
W. R. Grace & Co.....	1,500
A. M. Capens Sons.....	2,000
Kunhardt & Co.....	150
Iscohar & Gorgoriza.....	1,500
A. Rosenthals Sons.....	1,500
Suzarte & Whitney.....	500
	32,000
Oct. 20.—By the <i>Tenence</i> =Bahia:	
A. D. Hitch & Co.....	22,500
Oct. 21.—By the <i>Piguelanca</i> =Mexico:	
Harburger & Stack.....	5,500
H. Marquardt & Co.....	2,500
L. Steiger & Co.....	2,500
American Trading Co.....	1,000
Frederick Probst & Co.....	1,100
	12,500
Oct. 25.—By the <i>Yves Etche</i> =Colon:	
Hitzel, Feltman & Co.....	13,500
A. Santos & Co.....	600
	14,100
Oct. 26.—By the <i>El Sol</i> =Galveston:	
Continental & Mexican Co.....	23,500
Oct. 26.—By the <i>Centugos</i> =Tampico:	
Edward Mutter.....	25,000
European Account.....	11,500
	36,500
Oct. 31.—By the <i>Albana</i> =Colon:	
Andean Trading Co.....	7,500
Hitzel, Feltman & Co.....	2,500
Piza, Nephews & Co.....	2,200
Mann & Emden.....	1,000
Raffing & DeLeon.....	700
	14,500
Oct. 31.—By <i>Chaberte</i> =New Orleans:	
A. T. Morse & Co.....	2,500
Oct. 31.—By the <i>Sanna</i> =Colombia:	
Kunhardt & Co.....	5,000
Hell.....	1,000
Isaac Brandon & Bros.....	1,500
D. A. Delima & Co.....	500
A. A. Lindo & Co.....	600
	8,000
Nov. 3.—By the <i>Campaña</i> =Liverpool:	
George A. Alden & Co.....	60,000
General Rubber Co.....	3,500
	63,500
Nov. 3.—By the <i>Wenda</i> =Frontera:	
Harburger & Stack.....	1,000
Theband Brothers.....	700
L. Steiger & Co.....	500
H. Marquardt & Co.....	500
	2,700

OTHER ARRIVALS AT NEW YORK

CENTRALS.

On 1. 20.—By <i>El Cid</i> =New Orleans :	
Manhattan Rubber Mfg Co.....	11,000
A. T. Morse & Co	1,000

CENTRAIS—Continued.

Nov. 5.—By the *El Rio*—New Orleans:
 Manhattan Rubber Mfg. Co. 12,500
 A. T. Morse & Co. 2,500
 Eggers & Hemlein 1,000

Nov. 5.—By the *Prussia*—Hamburg:
 George A. Alden & Co. 12,500

Nov. 5.—By the *Colon*—Colon:
 New York Commercial Co. 2,500
 I. H. Rosback & Bros. 22,500
 American Commerce Co. 1,000

Nov. 7.—By the *El Mar*—Galveston:
 Reimsch & Heald 12,500

Nov. 8.—By the *Therspis*—Bahia:
 New York Commercial Co. 6,000

Nov. 7.—By the *Finance*—Colon:
 G. Amsnick & Co. 2,200
 Aramburo Iupita 2,100
 E. B. Strout 1,800
 Charles E. Griffin 1,000
 Piza, Nephews & Co. 500
 Meyer Hecht 500

Nov. 8.—By the *Teutonic*—Liverpool:
 George A. Alden & Co. 12,500

Nov. 8.—By the *Atrato*—Colon:
 Herzl Felman & Co. 3,200
 Dumarest Bros. & Co. 3,000
 Rodan & Van Sickle 1,700
 Frame & Co. 1,100
 E. B. Strout 1,200
 A. M. Capens Sons 700
 Mecke & Co. 500
 Graham, Hinkley & Co. 600
 Isaac Brandon & Bros. 500

Nov. 10.—By the *Espana*—Frontera:
 Graham, Hinkley & Co. 1,700
 E. Steiger & Co. 1,300
 Harburger & Stack 1,000
 Theband Brothers 500
 Isaac Kibbe & Co. 500

Nov. 7.—By the *Colon*—Colon:
 Lawrence Johnson & Co. 7,000
 Otto Gerdan 9,700
 Dumarest Bros. & Co. 4,000
 G. Amsnick & Co. 1,800
 Rodan & Van Sickle 3,400
 Herzl, Felman & Co. 1,000
 Aramburo Iupita 600
 Colombian Trading Co. 500

Nov. 9.—By the *Pennsylvania*—Hamburg:
 General Rubber Co. 11,500
 George A. Alden & Co. 25,000

Nov. 12.—By the *Carmania*—Liverpool:
 George A. Alden & Co. 30,000

Nov. 12.—By the *El Paso*—New Orleans:
 A. T. Morse & Co. 7,500
 A. N. Rotholz 2,000
 Eggers & Hemlein 1,800
 Manhattan Rubber Mfg. Co. 1,000

Nov. 11.—By the *Yucatan*—Tampico:
 New York Commercial Co. 15,000
 Edward Mauter 20,000
 Reimsch & Heald 27,000
 Graham, Hinkley & Co. 9,000
 H. Marquardt & Co. 1,000

Nov. 11.—By the *Advance*—Colon:
 New York Commercial Co. 8,000
 Andean Trading Co. 5,200
 G. Amsnick & Co. 2,000
 Jose Julia & Co. 1,000
 A. D. Straus & Co. 500

Nov. 11.—By the *Schota*—Colombia:
 Isaac Brandon & Bros. 7,500
 A. Held 5,000
 Kunhardt & Co. 2,000
 Fred Kinkelmat 2,000
 J. A. Pauli & Co. 2,000
 D. A. De Lima & Co. 800
 G. Amsnick & Co. 500
 Seanz & Co. 500

Nov. 16.—By the *Madagas*—Tampico:
 Edward Mauter 20,000
 New York Commercial Co. 22,500
 W. L. Wadleigh 1,000

Nov. 16.—By the *Batavia*—Hamburg:
 General Rubber Co. 7,500

Nov. 17.—By the *Sulphur Prince*—Bahia:
 New York Commercial Co. 12,500
 Adolph Hirsch & Co. 2,000
 J. H. Rosback & Bros. 3,000

Nov. 17.—By the *Panama*—Colon:
 G. Amsnick & Co. 3,500
 Piza, Nephews Co. 2,200

CENTRAIS—Continued.

Mann & Co. 1,000
 New York Commercial Co. 1,000
 Meyer & Hecht 1,000
 Rodan & Van Sickle 1,000
 H. L. F. 1,000

Nov. 11.—By the *Galveston*—
 Continental & Mexican Co. 1,000

Nov. 11.—By the *El Rio*—New Orleans:
 A. T. Morse & Co. 1,000
 A. N. Rotholz 2,500
 Manhattan Rubber Mfg. Co. 1,000
 Eggers & Hemlein 1,000
 G. Amsnick & Co. 1,000

Nov. 20.—By the *H. H. M.*—Colombia:
 Kunhardt & Co. 2,000
 G. Amsnick & Co. 1,500
 Mecke & Co. 1,500
 Seanz & Co. 1,500
 A. A. Tundo & Co. 1,000

Nov. 20.—By the *Galveston*—
 Continental & Mexican Co. 60,000

AFRICANS.

Oct. 17.—By the *St. Charles*—Antwerp:
 Western Electric Co. 22,500
 Rubber Trading Co. 7,000

Oct. 22.—By the *St. Louis*—London:
 Poel & Arnold 11,500

Oct. 22.—By the *Amerika*—Hamburg:
 Robinson & Stiles 1,000

Oct. 22.—By the *Hayre*—
 A. T. Morse & Co. 4,000

Oct. 22.—By the *Antwerp*—
 Poel & Arnold 49,000
 A. T. Morse & Co. 10,000

Oct. 24.—By the *Marine*—Liverpool:
 Rubber Trading Co. 40,000
 A. T. Morse & Co. 4,500
 George A. Alden & Co. 2,500

Oct. 24.—By the *Antwerp*—
 George A. Alden & Co. 30,000
 Henry A. Gould Co. 4,500
 A. W. Brunn & Co. 5,500

Oct. 25.—By the *Hadden*—Hamburg:
 A. T. Morse & Co. 85,000
 George A. Alden & Co. 25,000
 Poel & Arnold 38,000

Oct. 25.—By the *Antwerp*—
 General Rubber Co. 11,500
 A. T. Morse & Co. 3,500

Oct. 25.—By the *Antwerp*—
 General Rubber Co. 15,000
 George A. Alden & Co. 11,500
 Raw Products Co. 5,500
 Robinson & Stiles 2,000

Oct. 30.—By the *Kindom*—Rotterdam:
 Poel & Arnold 9,000

Oct. 30.—By the *Zeeland*—Antwerp:
 Poel & Arnold 38,000
 Raw Products Co. 2,000

Oct. 31.—By the *Caronia*—Liverpool:
 General Rubber Co. 15,500
 George A. Alden & Co. 3,000
 Livesey & Co. 3,500

Nov. 1.—By the *Antwerp*—
 General Rubber Co. 22,500
 Henry A. Gould Co. 5,500

Nov. 3.—By the *Campania*—Liverpool:
 General Rubber Co. 32,000
 George A. Alden & Co. 11,500
 Earle Brothers 15,000

Nov. 8.—By the *St. Paul*—London:
 Poel & Arnold 11,000

Nov. 8.—By the *Antwerp*—
 George A. Alden & Co. 11,500

Nov. 8.—By the *Antwerp*—
 General Rubber Co. 11,500

Nov. 8.—By the *Antwerp*—
 Poel & Arnold 11,000
 A. T. Morse & Co. 7,000

Nov. 8.—By the *Antwerp*—
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 A. T. Morse & Co. 7,000

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 A. T. Morse & Co. 7,000

Nov. 8.—By the *Antwerp*—
 Poel & Arnold 11,000
 A. T. Morse & Co. 7,000

AFRICANS—Continued.

the *Antwerp*—
 Poel & Arnold 11,000

Nov. 12.—By the *Antwerp*—
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 Poel & Arnold 11,000

Nov. 12.—By the *Antwerp*—
 Poel & Arnold 11,000

EAST INDIAN.

Oct. 17.—By the *Antwerp*—
 Poel & Arnold 11,000

Oct. 17.—By the *Antwerp*—
 Poel & Arnold 11,000

Oct. 17.—By the *Antwerp*—
 Poel & Arnold 11,000

Oct. 17.—By the *Antwerp*—
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Oct. 17.—By the *Antwerp*—
 Poel & Arnold 11,000

Oct. 17.—By the *Antwerp*—
 Poel & Arnold 11,000

BOSTON ARRIVALS-Continued

Oct 1, 1861. By the <i>Cerberus</i> = Liverpool :	
George A. Alden & Co = African.....	13,993
Oct 1, 1861. By the <i>Derwent</i> = Liverpool :	
George A. Alden & Co = African.....	4,930
Oct 1, 1861. By the <i>Sylmaria</i> = Liverpool :	
George A. Alden & Co = African.....	1,244
Oct 1, 1861. By the <i>Emma</i> = Liverpool :	
Poel & Arnold = African.....	4,675
Oct 1, 1861. By the <i>Georgian</i> = London :	
George A. Alden & Co = Last Indian.....	6,596
Total	30,348
Value, \$24,575.]	

PORT OF NEW YORK OCTOBER

Total	30,348
Value, \$24,975.]	

GUTHA-HEUTONG.

BOSTON ARRIVALS.

58114-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038
--

AT PHILADELPHIA.

		POUNDS.
Oct. 4.	By the <i>Westland</i> = Liverpool	
	William Wright & Co., Ceara,	56,000
Oct. 7.	By the <i>Assand</i> = Liverpool	
	William Wright & Co., Ceara,	44,500
Oct. 22.	By the <i>Friesland</i> = Liverpool	
	William Wright & Co., Ceara,	22,500

AT BALTIMORE.

SHEET 4.—By the <i>Vedamono</i> —Liverpool :		FOUNT S.
William Wright & Co., Ceara.....		33,500
CH. T. 1.—By the <i>Tempiemon</i> —Liverpool :		
William Wright & Co., Ceara.....		34,000
CH. T. 8.—By the <i>Ustemono</i> —Liverpool :		
William Wright & Co., Ceara.....		56,000

UNITED STATES.

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
September, 1906.....	5,523,280	3,042,480	2,480,800
January-August.....	43,684,368	23,790,192	19,888,176
Nine months, 1906.....	49,207,648	26,838,672	22,368,976
Nine months, 1905.....	46,466,224	25,590,302	20,866,832
Nine months, 1904.....	41,722,416	24,230,158	17,492,258

GERMANY.

ITALY

MONTHS.	IMPORTS	EXPORTS.	NET IMPORTS.
July, 1906,	241,560	55,440	186,120
January-June,	1,463,440	204,600	1,258,840
Seven months, 1906, ..	1,705,000	260,040	1,444,960
Seven months, 1905, ..	954,360	117,620	836,740
Seven months, 1904, ..	901,420	73,180	828,240

FRANCE *

AUSTRIA-HUNGARY.

MONTHS	IMPORTS,	EXPORTS,	NET IMPORTS.
July, 1900	271,260	63,360	207,900
January-June	2,082,520	373,560	1,708,960
Seven months, 1900	2,353,780	436,920	1,916,860
Seven months, 1901	1,852,690	21,340	1,831,350
Seven months, 1902	1,744,410	14,710	1,729,700

B E I C A L U M +

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha Balata and waste rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce

†Special Commerce.

‡ Net Exports.

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RAIN COATS

Must have this Circular
Trade Mark stamped in
inside of coat.....



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HEVEA BRASILIENSIS
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DICHOPSES GUTTA

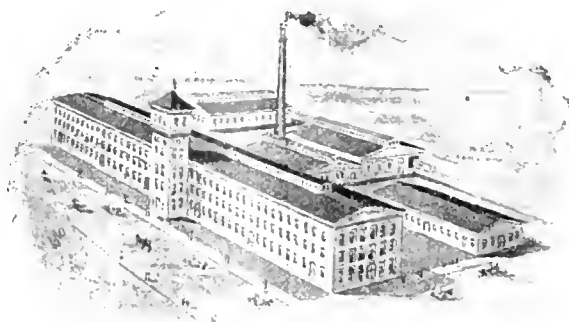
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Vol. XXXV. No. 4.

JANUARY 1, 1907.

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Manufacturers of

Mechanical Rubber Goods of Every Description. Rubber Carriage Drill and Duck. Rubber Carriage Tires and Rubber-Covered Insulated Wire.

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Vice-Pres. & Managing Director.

HARRISON C. FROST,
2nd Vice-President.

M. C. MULLARKY,
Manager Footwear Dept.

R. J. YOUNGE,
Sales Manager.

FLEETWOOD H. WARD,
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No. 4

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THE PROSPEROUS RUBBER TRADE.

DURING the present era of general industrial prosperity in the United States the rubber branch has compared favorably with all others, and made a far better showing than the average. Indeed, there is probably no other industry that has presented such a continuous record of successful operation. The national census of manufactures for 1905, some figures from which we have printed lately, indicates a gain of nearly 40 per cent. in the value of rubber manufactures since the preceding census was taken—a period of 4½ years—and this is a higher rate of growth than during the preceding ten years, regarded hitherto as a period of remarkable development.

But census figures are not required to demonstrate the prosperous condition of the rubber industry to day. It goes without saying that when every other form of production is active there will be a steady demand for rubber goods, so essential has rubber become as an auxiliary in nearly all other lines. Increased railway activity calls for more air brake hose; if more steam engines are operated the demand for packings is increased; belting is required for new machinery plants and additions to old ones; the extension of mining and blasting work, ship-building and architectural construction, and whatever else calls for pneumatic hose largely promotes the use of rubber, and so on, indefinitely. There is not much material development nowadays that does not involve some use of electricity, and this in turn makes a market for insulation materials. Then, too, rubber constantly comes into new uses for personal comfort or convenience, sports, and the like, and the population of the country grows in buying capacity as well as in number, and all to the profit of the rubber manufacturer.

It is not meant that an opportunity has existed for inflated profits, or that the demand for rubber goods is unlimited. For some years now the prices of raw materials have ranged at figures which formerly would have been deemed prohibitive, and the success of the rubber men in adapting themselves to the changed conditions has been the very best indication of the permanence and stability of the industry. The earning of even fair profits has called forth the best exertions of the leaders in every department of the industry. New gums have been brought into use and better results got from the gums longest known; labor saving and time saving processes and methods have been adopted, and every possible leak stopped. The result has been a growth of the rubber business to meet the increase in demand for goods, with prices not so much higher than formerly, with very few failures in the business, and those mainly of insignificant firms.

The American rubber manufacturer, though the industry originated in his own country, has never disdained to profit from foreign practice, so that to-day he is bringing to bear upon his work the best ideas in rubber, whatever

their origin. More than this, being less trammelled by precedent, perhaps, than is the rule in some countries, the Americans have evolved their full share of new features, not all of which have yet been adopted abroad, so that it is not too much to say that they are ahead of all competition. Buying raw materials in the same market as their competitors, they must pay higher wages for a shorter work day, and yet are able to produce goods, in many lines, at practically the same cost, if not less, quality for quality.

The new year opens with no sign of a less prosperous era, which is a favorable prospect for the rubber trade. The development of the country proceeds without abatement, with employment for all who want it as a rule, and with wages that enable everybody to buy. But if less favorable conditions should in time prevail, leading to a lessened demand for manufactured goods, it is our opinion that in no branch would the ill effects be felt less acutely than among the rubber men.

A NEW LIGHT ON THE AMAZON.

A GLOOMY view of the Amazon rubber situation was expressed by Governor Nery in his recent message to the legislative at Manáos. In his message at the preceding session it had been pointed out that the increasing production of rubber under cultivation constituted "a great menace" to the continued value of the chief article of export from the Amazon. This year the governor indulges in even more serious forebodings, based upon facts which he quotes regarding the planting of rubber in the Far East and the quality of the product. He appears particularly impressed with high prices paid for Ceylon rubber, since the belief had always prevailed on the Amazon that there could be no competition in the matter of quality with the native product.

The Manáos governor strongly urges action by the state for a preventive measure against the results of outside competition. He would have experiment stations established, for the improvement of methods of rubber production in Brazil. But of equal importance, in his opinion, is the development of agriculture along general lines, in order that the prosperity of the state may not longer depend upon a single interest.

The governor at Pará also deals with the rubber outlook in his message to the state legislature, but in a more optimistic vein. He finds encouragement in the fact that prices of Amazon rubber have not been affected by the extensive planting in progress in the British colonies. He calls the attention of rubber workers to the desirability of following the example of other countries and transforming the production of rubber into a systematic agricultural interest. The planting of other crops, particularly cacao and tobacco, is also recommended. Governor Montenegro mentions in his message a book that is being prepared for circulation in his state, on the rubber culture in Ceylon and elsewhere in the Far East.

These references to rubber are among the most interesting coming from any source in recent years. Their official character will compel attention and win respect for them among the people for whom they are intended. Doubtless northern Brazil's rubber interest will not be placed upon a new basis for a good while yet, but it is something to have the people of those states awakened to the fact that they have no monopoly even of "Pará" rubber. There are still some people who profess to believe that there is "nothing in rubber planting," and these may regard as foolish the idea of the governor at Pará having a book prepared to teach his people how rubber is planted on the other side of the globe. But we prefer to welcome it as a sign of progress on the Amazon that in time will benefit the whole rubber consuming interest. The world is not yet ready to do without rubber from Brazil, and the world will be helped by whatever improves the conditions of rubber production there.

BY WAY OF ENCOURAGEMENT to the rubber planting interest, after noting the success of rubber culture in Ceylon, the *Journal of the Jamaica Agricultural Society* says: "From the knowledge that was obtainable at the time the Ceylon planters began to plant Pará rubber, we think that nine out of ten experienced agriculturists elsewhere would not have advised that the conditions in Ceylon would have suited this rubber so well as results have now proved." The *Journal* might have written more strongly. Less than ten years ago Mr. Gustav Mann, long conservator of forests for Assam, and widely regarded as an authority, wrote in THE INDIA RUBBER WORLD: "*The naturalization of American rubber trees in Asia has not been a success, and generally speaking, I am now inclined to think that all rubber plants had better be grown in the countries in which they are indigenous.*" From what has since been accomplished with rubber in the Far East, it is clear that a great deal remained to be learned on this subject ten years ago. For that matter, it might not be well for any planter or rubber expert even now to assume that there are no unsolved problems in relation to rubber culture.

THE POSSIBILITY OF DRYING RUBBER in three hours, instead of three months, as formerly, invites the idea of the crop being moved forward, so to speak, by three months. Any effect upon prices, however, would be very transient, for the trade would speedily adjust itself to the new condition. There would be just so much rubber produced in a year, with just so much demand. The advantage of quick drying would be reaped by the producer, in case it involved economy. There would, however, be a further advantage to the manufacturer, if the rubber reached him in better condition than before.

SOME LARGE MANUFACTURERS OF ASBESTOS GOODS in Europe, some of whom are also rubber manufacturers, find it to their advantage to own asbestos mines in Canada. There are lead pencil makers who own timber lands and graphite mines, and operate rubber factories (for erasers). It may be equally advantageous in time for rubber manufacturers to own rubber trees. A report which is of interest in

this connection is that certain English cotton goods manufacturers are planning to invest largely in planting in the United States, as a means of securing cotton at less cost.

FOREIGN AUTOMOBILE PAPERS are ringing the changes on the failure of "American" tires at the last Vanderbilt Cup race. This is hardly fair to the tire trade at large as one American company alone furnished tires for that race and their success or failure should not be credited to the others who did not participate.

THE WORK OF ROAD IMPROVEMENT is being taken up in earnest by the authorities of the state of New York, in view of the liberal expenditures sanctioned by popular vote last year, and as a first instalment contracts have been let recently for \$1,000,000 worth of work. No doubt the growth of automobiling has done much to bring about this desirable improvement, while the completion of the new roads will doubtless lead to more automobiles being used—a condition most encouraging to the rubber tire trade.

AN ANALYSIS OF THE PROSPECTUS of the largest Ceylon rubber enterprise yet "floated" in London, involving more than \$1,500,000, shows the stated capital to amount to 68,000 shares for each rubber tree reported on the ground, and most of the trees are yet too young to yield rubber. It is true that the large valuation is not placed upon the rubber alone, but takes account of a large acreage yet to be planted, besides which a considerable amount of the capital subscribed will be devoted to new development work. Still, the growing rubber is the most important asset, and the company had not enough shares to satisfy all who wanted to invest.

FROM A FRIEND IN MEXICO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I wish to suggest that you give us more practical details of real value to the planter, instead of sketchy though readable abstracts that are of no practical value in the field. Your paper is always entertaining but not instructive enough, because lacking details. To illustrate: The paper on *Castilleja* from the *Quarterly Journal* of the Liverpool Institute of Tropical Research was published in full in the Ceylon paper and was worth more to a planter than a hundred clever stories of the general appearances of plantations. I am aware that details require space, but if you don't give them some other paper, as for instance the *Mexican百草*, may in time eat into your constituency down here. Of course I don't know how valuable this field is to you, so merely offer this pointer for what it is worth. Yours truly,

J. HERBERT FOSTER.

Pula de los Tuxtlas, Vera Cruz, Mexico, November 27, 1906.

[THE gist of the paper on *Castilleja* mentioned above was published in THE INDIA RUBBER WORLD, April 1 and May 1, 1906, entitled "Notes on the Castilleja Rubber Tree," months before it appeared elsewhere. We are delighted that Mr. Foster approves and appreciates that particular article. The matter was later published in the *Quarterly Journal* of Tropical Research (Liverpool) and in almost every tropical paper. No one bemoans the Editor's temptation to write sketchy matter and to add semi-humorous comments to articles that should be dull and ponderous more than the

Editor himself. But even in writing things happen, for example, our correspondent writes in the text is almost impossible not to smile at the Editor's pen.

THE GUAYULE RUBBER INTEREST.

THE Continental Rubber Co. are reported to have closed a deal for the purchase of the Soberano land and adjacent property belonging to the Pena Brothers of Torreon, Mexico. The purchase price of the Soberano is given at \$4,500,000, and the price of the other tract brings the total up to about \$6,500,000 (Mexican). The Soberano property alone embraces 2,000,000 acres, all of which contains Guayule shrubs. The purchase covers also extensive property in livestock. Another report mentions P. Floyd, of Laredo, Texas, having made a contract to supply a rubber company with a large amount of Guayule shrub from a 30,000 acre tract which he owns in northern Mexico.

The annual report of the Mexican Central railroad, issued on December 8, makes this reference to the progress of the Guayule rubber industry:

"The manufacture of rubber from the Guayule plant has taken great strides and there are now four factories established with this object on the line. The business appears to have passed the speculative stage and is now settling into a legitimate industry. It has had a wonderful effect on the value of so-called desert land properties that a few years ago could be purchased for a tithe of their present price. The increase in the production of latex from the lechugilla plant has also assisted in this rise in land values."

The Continental Rubber Co. have recently ordered 550,000 feet of lumber to use in dwellings for the employees of the Guayule works at Torreon.

OBITUARY.

GEORGE C. SHIRTS, who died in Chicago on November 23, was born about 30 years ago at Grand Rapids, Michigan. He attended the University of Michigan and was a member of several of the fraternities there. Five years ago he came east for the Revco Rubber Co., becoming in time their assistant sales manager. For the past four months he had been in charge of their Chicago store. He was ill one week and died of typhoid fever. The interment was at Grand Rapids. Mr. Shirts is survived by a wife and daughter.

At a special meeting of the New England Rubber Club on November 30, 1906, the following resolutions were adopted:

WHEREAS, Our friend and associate George C. Shirts has been stricken by death and removed from our midst, we, his fellow members, in recognition of our loss, record the following resolutions:

Resolved, That during his connection with the rubber trade, extending over some five years and especially during his residence amongst us in New England, his magnetic personality made of every business acquaintance a personal friend, each one of whom now laments his untimely decease. General in association with his business companions; upright and honest in his dealings with men, the trade has lost a valued member.

Resolved, That we extend to his family, and to his business associates, our deep and sincere sympathy.

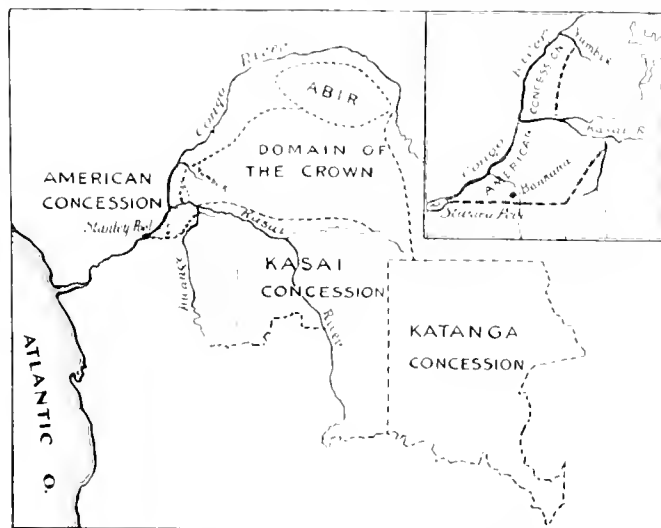
Resolved, That these resolutions be spread upon the records of the Club, and that a copy be sent to his family.

ARTHUR W. STELMAN,
GEORGE C. WHELMORE,
ELSTON L. WADSWORTH.

THE AMERICAN CONGO CONCESSION.

BY the terms of their agreement with the government of the Congo Free State, the American Congo Co. are to have possession, for 60 years, with rights of exploitation, of two tracts of land, aggregating 1,000,000 hectares [2,471,000 acres]. One of these is a belt 15½ miles wide, extending along the Congo river from the mouth of the Kasai, its largest tributary, up to where the Yumbi, a small stream, enters the Congo. The second and larger lot extends from Stanley Pool along the Congo to the south bank of the Kasai, and along that stream to above the point of confluence with it of the Kwango river. The area mentioned is equal to 3800 square miles, or more than three times the size of Rhode Island—and nearly twice as large as the state of Delaware. This area is understood to be rich in rubber, yielded by *lianes* (vines) and also by underground creepers of the *Landolfia Thollonii* or similar species.

The company are empowered to make a further selection of two lots, aggregating 5000 hectares [12,355 acres], to be held for two years, with the right of renewal for two



AMERICAN CONCESSION ON THE CONGO.

[The shaded portion on the left denotes the 3800 square miles ceded to the American Congo Co. The *domaine de la couronne* is outlined, and the areas under concession to the ABIR, Kasai, and Katanga companies. A detail map of the American concession is given on the upper right hand.]

years, on which to experiment with mechanical and chemical processes for the extraction of rubber. The location of these tracts is to be within the limits described as the *domaine de la couronne*, lying between the Abir and Kasai trust concessions. This is regarded as the private property of King Leopold and is apart from the *domaine national*, in which the American Congo Co.'s concession is located.

In addition to the above grants, the American company have the privilege, within 10 years, of acquiring an additional 500,000 hectares [1,235,500 acres] on terms yet to be agreed on. London papers report that the Congo Free State is to hold half the bonds to be issued by the American company, besides 1 per cent. of the dividends.

The map on this page indicates the location of the American rubber concession, which is a section of the *domaine national* (or *domaine privé*) not hitherto the subject of a concession. The two small tracts ceded for experimental purposes for a limited time are to be located within the area designat-

ed on the map as the "domain of the crown." The New York *American* is authority for the statement that same American interests have purchased shares in the Société A B I R (Ango-Belgian India-Rubber and Exploration Co.) and the Compagnie du Katanga, important Belgian *concessionaire* companies whose holdings are also located on the map presented herewith.

More important, in Belgian estimation, than the rubber concession granted to Mr. Ryan and his associates, is a mining and lumber concession in which the same American group are interested, granted to La Société Internationale Forestière et Minière du Congo, formed at Brussels under decree of November 6, 1906. This is to exist for 60 years and to embrace 3,716,700 hectares [= 14,345 square miles], to be located in the domain of the crown and in areas reserved by the state in the district occupied by the Katanga concession. The 7000 shares of the mining company (of 500 francs each) are thus allotted:

Domaine national (Congo Free State).....	2,500
Fondation de la couronne (King Leopold).....	1,000
Belgian capitalists.....	1,750
American capitalists.....	1,750

The first 3500 shares on the list are to be allotted gratis in view of the advantages accorded by the Congo Free State. Besides, the crown will subscribe for 580 shares allotted to the Belgian capitalists. In addition to the 7000 capital shares will be issued an equal number of dividend shares *sans désignation de valeur* (without designation of value), which are to share in the distribution of any profits over a fixed rate per cent. on the capital stock. The holders of the dividend shares are the same as of the capital shares. This is the usual form of organization of large *concessionaire* companies in which the Congo Free State holds an interest, and presumably the same rule applies to the American Congo Co. The only difference is that in the present case other than Belgian capital is admitted.

A \$40,000,000 COMPANY ORGANIZED.

THE Intercontinental Rubber Co. filed articles of incorporation on December 6, 1906, at the office of the secretary of state of New Jersey. The company propose, with a capitalization of \$40,000,000, to carry on the business of collecting, extracting, producing, manufacturing, and dealing in crude rubber and other like gums. The general purposes of the company are the same as those of the Continental Rubber Co., incorporated in New Jersey in 1905, though the incorporation papers disclose no connection with the Continental company. It is learned definitely however, that the new company are to exploit the Congo rubber concessions acquired recently by Mr. Thomas F. Ryan and his associates, and it is assumed that the plan involves the absorption of the American Congo Co. and the Continental Rubber Co., the latter of which was formed to exploit Guayule rubber in Mexico.

The capital of the Intercontinental Rubber Co. is divided into \$10,000,000 in preference shares, entitled to 7 per cent. dividends, and \$30,000,000 of common stock. The incorporators are William C. Sherwood, Louis Sherwood, and Richard P. Tulley, all of Jersey City, but these names probably have been used only for purposes of preliminary organization. It is understood that shares are to be allotted to Belgian, French, and English financiers who are associated with Americans in the Congo enterprise.

TIRES AT THE NEW YORK AUTOMOBILE SHOW.

THE tire exhibits at the late automobile show in New York formed a most interesting feature, though there were few real tire novelties to be seen. It was the seventh annual show of the Automobile Club of America, participated in by The American Motor Car Manufacturers' Association. The show was held in the Grand Central Palace, the largest building in the city adapted to such use, opening on the 1st and closing on the 8th of December. As an exhibition of automobiles it was of great interest, by way of showing many evidences of progress in construction, and the large attendance indicated a continued growth of the public concern in whatever pertains to automobiles. The holding of the show a month earlier than usual proved most satisfactory to the trade and the public alike.

The number of tire exhibits was smaller than at some former automobile shows, through the gradual elimination from the list of makers of special tires which have not won popular favor, or of rubber companies with whom tire making has been of minor importance. The tire exhibits at the last show were, for the most part, those of manufacturing firms that have become well established and whose products have a fixed reputation. The absence of "freak" tires at the show was frequently commented on.

The tire displays were confined to equipment for automobiles and commercial motor cars. There wasn't a suggestion of a bicycle in the building, though several firms did call attention to special tires for motor cycles. The automobile tire is rapidly becoming standardized—an air tube with a detachable cover of fabric and rubber—all makes being similarly shaped in cross section, with certain sizes recognized as desirable for given conditions. There are differences in means of fastening on tires, but these differences appear less essential when one sees a rim offered that is equally adapted to a clincher and a Dunlop tire, or sees clinchers with modified beads designed for mechanical fastenings of the Fisk type.

Several firms make a point of supplying tires of any of the leading types that may be desired by a customer, so that a firm's name is no longer identified with a particular form of tire. It is of more interest to them to become recognized as making "good tires." Another point is that a tire firm will offer the same tire to be fitted to any one of several rims, all of which is evidence of the growing standardization of tires and their accessories.

There are yet some motorists who prefer single tube tires, and Morgan & Wright exhibited such tires, of the familiar old pattern, together with their clinchers and Dunlops and solid rubber products. Another single tube tire shown, though on different lines, was that of The Swirlart Clincher Tire and Rubber Co. This is provided, on the rim side, with beads, which engage a clincher rim. The tire differs also from the ordinary single tube in being shut all around on the inner side, and it is put in place in the same way as any detachable tire cover.

The standard American clincher tire is now circular in section, the so called U shape having been discarded generally. The G & J Tire Co. and some other makers have adopted an

oval raised tread, something midway between a round and a flat tread. Protective tire treads as a separate product figured little in the show, the tendency being to have the treads as closely attached to the tire as possible. The Bailey "Won't Slip" tread, being wholly of rubber and capable of being made an integral part of the tire, was much in evidence. The Continental Caoutchouc Co. have a new steel studded rubber and fabric tread, with special means to secure attachment. The Pennsylvania Rubber Co. also showed a steel studded non skid tread. The Hartford Rubber Works Co. have a new non skid feature which consists in embedding in the tread of a flat tread tire four parallel coils of helical spring. In the event of the outer loops wearing down, there will still remain a series of inverted staples fixed in the tread. This feature is also applicable to solid tires. The Diamond Rubber Co. have a new non skid tread, the studs being vulcanized in the heads held in by the inserted fabric. There was an absence of metallic armored treads, chains, and the like.

The Firestone Tire and Rubber Co., in addition to their sidewire tires, have taken on the manufacture of pneumatics, which are supplied either for mechanical fastening or their "Safety" universal rim. They also exhibited internally wired solid tires and cushion tires.

The International Rubber Co. have adopted the wrapped tread process exclusively for their pneumatics, have become licensed to make the Bailey tread, and are using the Good-year universal rim.

The Electric Rubber Manufacturing Co. make a specialty of the "M. T." triple strength inner tube, and besides their "Panther" pneumatics showed two solids—Dewes's endless and the standard pattern of internally wired tire.

The Fisk Rubber Co., in addition to their regular product, showed a specially made tire for heavy work. The Continental Caoutchouc Co. exhibited a flat tread pneumatic 37 x 5½ inches, for heavy vehicles.

The Dunlop tire was more in evidence than formerly. In one exhibit it was described as the "Indianapolis Dunlop Bailey Tread" tire, meaning the product of the G & J Tire Co.'s Indianapolis factory, with the Bailey tread attached. It is fitted for use on the Midgley universal rim. All told, this is quite a different looking affair from the British Dunlop tire, made under the Welch patent, but it retains the essential feature of the non extensible wires embedded in the cells of the case, and this was the basis of the patent.

The foreign tires shown were the Continental, Michelin, Halbur, and the "Pneu Electric" made by the S. & G. Industrielle des Telephones—two French and two German. The Halburg exhibit included inner tubes made in America, and described as "a successful union of German brains and American skill."

The Halburg Tire Co. showed a new form of the Welch-Roberts patent. The Vincent wheel rim, now patented by the Hartford Suspension Co., has the spokes on rights. The Midgley, formerly the Hart, of the universal rim, has been modified in the direction of simplicity. The Diamond Rubber Co.'s Marsh rim is provided with either clincher or Dunlop covers. The Goodrich pneumatic

retaining band has also been simplified and improved. The Goodyear detachable rim shows some changes, and is now applicable to small solid tires.

Other exhibits were the Hubbard solid tire, made of rubber sections bolted into recesses in a cast steel section, and the rubber cushioned automobile tire of the St. John Rubber Tire Co. The Traver blowout patch, shown by the Electric Rubber Manufacturing Co. is about 12 inches long, of heavy fabric, rubber coated, with a brass lip riveted to one edge to fit under the rim. The Goodrich emergency band is designed to go outside the tire in case of trouble, being laced around it. The "Adwear" tire sleeve, of leather, steel studded, is also held in place by lacing. The Newmastic Tire Co. exhibited "newmastic" tire filling.

The tire manufacturing companies occupying spaces at the Grand Central Palace show were:

Ajax-Grieb Rubber Co.	Trenton, N. J.
Continental Caoutchouc Co.	New York.
The Diamond Rubber Co.	Akron, Ohio.
Electric Rubber Manufacturing Co.	Rutherford, N. J.
Firestone Tire and Rubber Co.	Akron, Ohio.
The Fisk Rubber Co.	Chicopee Falls, Mass.
G & J Tire Co.	Indianapolis, Ind.
The B. F. Goodrich Co.	Akron, Ohio.
Goodyear Tire and Rubber Co.	Akron, Ohio.
Harburg Tire Co.	New York.
The Hartford Rubber Works Co.	Hartford, Conn.
International Rubber Co.	Milltown, N. J.
Michelin Products Selling Co., Inc.	New York.
Morgan & Wright.	Detroit, Mich.
Motz Clincher Tire Co.	Akron, Ohio.
Pennsylvania Rubber Co.	Jeannette, Pa.
Société Industrielle des Téléphones.	Paris, France.
The Swinchart Clincher Tire and Rubber Co.	Akron, Ohio.

The second New York automobile show this season will be held at Madison Square Garden January 12-19, under the auspices of the Association of Licensed Automobile Manufacturers. The Chicago show will be held, as last year, in the Coliseum and First Regiment armory, on February 2-9. The various tire exhibits that have been mentioned presumably will be duplicated at the two coming shows.

THE LONDON AUTOMOBILE SHOWS.

The fifth international motor exhibition at the Olympia, in London, under the auspices of The Society of Motor Manufacturers and Traders, Limited (November 15-24) was by far the most important yet held. Rubber tires were as usual a prominent feature, more than 20 firms making exhibits. This show being reserved for automobiles, tires for this class of vehicles predominated, though several exhibits included tires for motor vehicles. It was in the latter department, perhaps, that the principal novelties appeared. Owing to the expiration of the Dunlop-Welch and Bartlett clincher patents, the manufacture of these types is now open to all comers, and most of the British tire factories are now producing them. Most exhibits embraced some form of non skid tread.

The Collier Tyre Co. showed a mechanically fastened pneumatic tire. The Dunlop company showed solid motor truck tires, and the Sirdar Rubber Co., Limited, for the first time exhibited pneumatics. The Continental company exhibited their detachable rim, which had been seen first at the late Vanderbilt Cup race. The B. F. Goodrich Co. exhibited detachable tires with the Bailey tread. Exhibits were made

by three French firms—Hutchinson, Michelin, and the "Gaulois" company.

The Stanley Show, held at the Royal Agricultural Hall, during the last week of December, was devoted more to bicycles, but the rubber firms exhibiting there generally included motor tires in their displays.

THE BERLIN AUTOMOBILE SHOW.

At the international automobile exposition at Berlin, held in the exhibition hall of the zoölogical gardens November 1-12, the rubber tire trade was fully represented, not only in the matter of the leading firms, but in the fullness and interesting character of their exhibits. The German tire firms were:

Asbest- und Gummiwerke Alfred Calmon, A.-G.	Hamburg.
Berlin Rixdorfer Gummiwaaren-Fabrik Hans Schumann.	Berlin.
Gummiwerke Fulda, G. m. b. H.	Fulda.
Mitteldeutsche Gummiwaaren-Fabrik Louis Peter, A. G.	Frankfort o/M.
Continental Caoutchouc- und Guttapercha Co.	Hannover.
Gummiwerke Oberspree, G. m. b. H.	Oberschöneweide.
Dunlop Pneumatic Tyre Co., G. m. b. H.	Hanau.
Hannoversche Gummi- Kamm Co., A.-G.	Hannover.
Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken	Gelnhausen.
Vereinigte Gummiwaaren-Fabriken Harburg-Wien	Harburg a'd Elbe.
Hannoversche Aktien-Gummiwaaren-Fabrik	Linden.
B. Polack	Waltershausen.
Frankfurter Gummiwaaren Fabrik Carl Stockicht	Frankfort o/M.

There were other firms in rubber exhibiting specialties, repair outfits, and the like. The foreign tire industry was represented by the exhibit of Michelin et Cie., though this was supplied from the firm's branch at Frankfort. Emperor William was prevented by illness from opening the exhibition, as was intended, but he was an interested visitor on a later date.

SOME WANTS OF THE TRADE.

[367] INFORMATION is wanted by a reader of THE INDIA RUBBER WORLD as to where a machine may be obtained that will wind wire hose from $\frac{3}{8}$ inch to 2 $\frac{1}{2}$ inches.

[368] Addresses of companies making bias cutting machines are mentioned among the wants received at this office.

[369] Can any reader furnish a correspondent with the name of the firm manufacturing the "Diana" tobacco pouch? It is an English company.

[370] An inquiry as to who furnishes sulphide of zinc for the rubber trade has reached THE INDIA RUBBER WORLD.

[371] A correspondent wishes to ascertain names of companies who manufacture the latest improved machines for turning out heavy rubber covered insulated wires, and also the machines for the drawing of copper wire from the rod.

[372] A Chicago reader wishes to get a line on the manufacture of a rubber marking pen. [It has been learned that they were manufactured over 25 years ago. Our correspondent is referred to the Tower Manufacturing and Novelty Co., No. 306 Broadway, New York.]

[373] A large rubber concern wish to purchase some scales for office use. They desire a graduated scale by which a small washer or rubber article could be weighed, the balance beam to indicate the weight per dozen, gross, or hundred.

A RUBBER GOODS MERCHANT ON RUBBER.

At a meeting of an engineer's club the feature of the evening was a talk on "Rubber," by a gentleman long connected with that interest, not as a manufacturer, but in selling rubber goods. Liberal extracts are given here, to indicate the dealer's point of view in regard to various questions concerning rubber that come up for discussion.

THOSE who have been engaged of late years in the manufacture and sale of mechanical rubber goods have been obliged constantly to study the advances that have taken place, particularly in the increase of steam pressure and consequent temperatures, in order to keep themselves in touch with the requirements necessitated by these advances, to enable them to deliver to the consumer an article of manufactured rubber that would perform properly the work required.

It seems but a short time since compound engines carrying but 35 pounds pressure were all we had to meet, in marine engines, of which a very few still remain, and in which most any ordinary rubber will answer. But when we meet successfully a continuous advance up to 300 pounds steam pressure, the problem becomes an intricate one, and requires the same kind of mechanical ability and application to the conditions as is required to operate the engines themselves.

When, in railroad work, the first steam and airbrake hose was used, the ordinary standard stock article was quite sufficient. Now every first class manufacturer knows the severity of the specifications they are required to fill by the master car builders.

In the United States navy, whose bureau of purchase a dozen years ago was at the mercy of the lowest bidder almost without consideration of quality, to-day the most rigid specifications are in force. A high quality of pure rubber and very little objectionable matter must be found in the severe chemical analyses given to all rubber purchased by the chemists employed by the navy department.

Imagine, if you please, the lining of a hose but $\frac{1}{16}$ inch in thickness being given a tensile strength test equal to 1000 pounds per square inch, and actually standing 1050 pounds per square inch, and yet being rejected for containing some slight amount of resinous extract found in the natural rubber itself and which could not be avoided by the manufacturer—yet such is actual experience. A double jacket fire hose weighing about a pound to the foot is required to stand 400 pounds pressure to the square inch, in 50 foot lengths. Hose of this quality in a 3 foot length, with the end plugged, has been known to stand 1200 pounds bursting pressure. Think of testing your steel boilers or iron pipes to anything like such severe conditions.

SOME POINTS ON PACKINGS.

[Query: "In speaking of packings you said that at 500° a superheat, the rubber would be no good, or something to that effect. How high can rubber be vulcanized—what temperature Fahrenheit?"] Well, it depends on the quantity of rubber in the compound, and the quality of the materials forming the compound with it. The rubber that I spoke of was the pure article. We vulcanize rubber at a temperature as high as 300°, and until recent years rubber packing has not been known to stand a very much higher temperature

than that under which it was vulcanized—but I had a piece here somewhere which has stood 900° F. for 10 hours, and which was taken out and put back again three times, making four applications in all, and it didn't stick to the plates, but that would be about the life of it, and it is not good enough for superheat. You see, in the manufacture of these goods we are limited to very few raw materials. The materials with which compounded rubber is used [for packings] are linen, cotton, and asbestos.

There (indicating another sample) is a combination of asbestos and rubber—very little rubber in it. That would stand a superheat up to 600°, and I have some of our products that have been in use up to that degree that have held a year and they are still in use. We have also produced a soft rubber and asbestos packing, the sort that stands on the valve stems of turbine engines, which only stands for three or four weeks, but then we think that is doing pretty well for soft material, where metal melted.

There (showing another sample) is a piece of the navy standard rubber, cut, sized, and shaped by their templates—it is in the form in which they test it. They put that into a breaking machine and mark a space 2 inches here and $\frac{1}{4}$ inch here (indicating), 2 inches long, and that 2 inches will stretch to 11. That will require a pull of 45 to 50 pounds, owing to the hardness with which it is vulcanized; and must return within five minutes to within $\frac{1}{8}$ inch of its original measure, after which it must stand a total tensile strength of 100 pounds. After it does that, it is analyzed by a chemist by some process, and that brings out the quantity of the rubber, and they determine the quality of the rubber by the amount of extracted matter that remains; and if the rubber stands all the physical tests but has a percentage of ingredients that they don't like, it is rejected.

That piece of rubber (indicating another sample) contains 50 per cent. of fine Amazon rubber. It contains some chalk and lime, and 3 $\frac{1}{2}$ per cent. of sulphur, and one or two things that make it tough. That piece was vulcanized in a mold under 300° temperature for a very short time. We have to be very careful in sending stuff to the navy. For instance, I discovered a quantity of rubber there which they had rejected on a pulling contest. It was sent back to the mill and vulcanized for 5 minutes more, and it stood the test all right. The process of vulcanizing made it tough.

There (indicating a sample) is a little piece of packing that a friend of mine brought to me. That piece of rubber was used between 300 and 400 times; I could hardly credit it myself. This is one of the products that weighs 4 $\frac{1}{2}$ pounds per square yard at $\frac{1}{16}$ inch in thickness. It is an actual fact that the best rubber goods will be lightest in weight, and liable to cost less originally.

I remember once, about six years ago, feeling quite ashamed of a bill that went out of my place. Some valves were ordered for a very large pump in one of the street railway plants near Boston; the valves, I think, were 10 inches in diameter, and $\frac{1}{4}$ inches thick, a large quantity of them. There was a thorough overhauling of the pump and they ordered a medium valve, which were sent to them. Two or three days later I dropped into the place and saw the chief

engineer at work on the pump, and he said: "Knowlton, I think that about half of those valves will do all right, but to put them away down in the bottom I would rather have them softer. Will you change them for us?" I said, "Yes." It was rather a hard thing to do, to take all that stuff back, but to accommodate him I did it. I sent him the valves made of rubber softer and better than the first ones, and, as an actual fact, the total bill was \$35 less. That was six years ago, and last year, at one of the meetings of our Club, I was talking with some gentlemen whom I had not met before, who was telling about taking a big pump to pieces in the station, and said: "I took out the greatest set of valves I have ever seen: to my knowledge they had been there six years; all I had to do was to grind them off and put them back again." I had the satisfaction of telling him that I had made them. In this case the best was cheapest, both in first cost and durability.

GETTING AT THE COST OF GOODS.

[In reply to a question: "Is the rubber packed so as to make it heavy?"]. It is not the rubber. What brings up the cost is the method of figuring up the whole thing complete at a certain average price per pound. The greatest opportunity for mineral compound, and where you are liable to get most of the heaviest minerals, is when medium goods are ordered—medium in vulcanizing. There is not much opportunity in hard or soft rubber—it is not so much the rubber as the minerals required to make it do the work. No one likes to use a hard valve if it is possible to avoid it; the softer it is the better, and the less noise it makes. Most men would rather have a valve a little soft than a real hard valve; and in order to accomplish that, and make it stand the pressure and the temperature and the weight of the water it has to lift, you must use some soft materials, and while the surface of the valve, and perhaps the compound throughout, may be of medium softness, it will be heavy, because one must have zinc or lead or something of that kind to make it do the work.

[Query: "I don't see why, with lead at 4 or 5 cents a pound, and rubber \$1.35 a pound. It brings up the cost."]. Of course, the rubber is the most important element in the cost, and the labor is as much or more in a heavy compound as in a light one. These necessary minerals lower the cost per pound, but increase the weight of the product so that the valve, or any solid article, might cost as much or more than if made of a lighter compound containing a larger quantity of fine rubber and costing more per pound.

TESTING RUBBER GOODS.

There (showing a sample) is an old time piece of rubber, made in 1860. - - - It is just as it was sent to me some years ago by the man who gave me its history.

[Query: "What causes the deterioration of rubber goods—such as you have in stock, before selling them?"]. They would improve with age, for a year or two.

[Query: "I have understood that rubber with impurities in it loses its life with age. What causes this?"]. The compound put with it. It would not be impurities in the natural rubber.

[Query: "Is the process of determining the quality of rubber an exact one?"]. I don't think so. Different chemists will take the same piece of rubber goods and the results obtained will be different. It is my opinion that they cannot tell the exact quality of rubber, they do not understand it

yet. - - - The methods of any one chemist, followed consistently, would give comparative results, though they might not compare exactly with the results of another chemist. Most of the modern mills have a laboratory, and a very extensive one, and nothing is done by guesswork.

[Query: "Can you give an offhand test of rubber? Say you have several compounds: would the weight of different samples of equal bulk have anything to do with determining the amount of rubber in each?"]. It certainly would. The best quality is lighter in weight. On my recommendation the United States government is purchasing sheet packing by the square yard instead of by the pound, getting a better quality for about the same cost. - - -

The tensile strength test is a good one. Take a piece of rubber, say $\frac{1}{16}$ inch thick,—if it is a pure gum, not a high pressure steam packing, but a cold water or open air piece of compounded rubber. Take a piece $\frac{1}{2}$ inch wide, and if it contains 45 per cent. or more of good, first quality rubber, it will stretch to seven times its length without breaking, and require a tensile strength of 16 pounds to pull it three times its length, and will return to nearly its original measurement within three or four minutes. - - -

I will tell you how you can recognize fine Pará or Bolivian rubber. There is nothing in the world like it. The odor of the Indians' smoked ham never leaves it; you cannot get it out. The smell is the way I tell it.

RUBBER SUBSTITUTES.

There are no substitutes for rubber. That is, nothing has yet been produced which of itself will take the place of rubber. There are adulterations which are valuable as ingredients, and are used in perfecting the manufactured product. While rubber of itself is the toughest thing in the world, it would be of but little use if not compounded with minerals, etc., used to perfect the manufactured product and increase its durability.

We are often, in showing perhaps an excellent piece of rubber goods, received with the remark that it is probably made of old boots and shoes. Let me say that this is one of the results of which we are proud.

Boots and shoes, contrary perhaps to the general uninformed opinion, are made of the best of rubber. In fact, 40 per cent. of their cost is good rubber, which is so prepared that it is in such a condition even after using as to be readily reclaimable and used as an ingredient, supplanting other less desirable matter and making a better product than certain minerals which we were formerly obliged to employ.

There is one opportunity still open for the man who can grasp it, which is the devulcanizing of rubber, such as heavy pump valves, hose lining, tires, and all sorts of articles in general use, to return it to nearly its original condition, namely, as just before vulcanizing. The man who can accomplish this need not feel compelled to work again, as he would add to the quantity of available rubber a large amount of stock that could be used again for very many different purposes.

The newspapers mention that Chester B. White and Douglass Cross, of St. Louis, have returned from Peru and Bolivia, where they spent a year in prospecting for minerals. They mention having seen important undeveloped rubber resources, and they look forward to the time when much American capital will go into those regions.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE proposal of Mr. Bamber, to vulcanize the rubber latex in Ceylon with chloride of sulphur, in order to save trouble to the manufacturers, was referred to in complimentary terms by Professor Wyndham Dunstan at the British Association meeting at York. The topic was mentioned by our Editor in mild albeit disparaging terms in the October issue of THE INDIA RUBBER WORLD. For myself I feel some difficulty in regarding it with patience. If put forward simply as a laboratory experiment of interest to science, such as was Professor Tilden's preparation of artificial rubber from isoprene it would not call for criticism. But we are told that it is of considerable trade importance, and it is suggested, though more implicitly than explicitly, that the author thereof must henceforward rank among those whose names are to be found inscribed on the roll of those who have made the rubber industry what it is. But can any one seriously say that the proposal has any practical utility at all? More recently the inventor in enlarging upon it said that the idea was that the rubber manufacturers should send their own representatives to Ceylon to do the vulcanizing. The manager of a works informs me that he has no objection to going out, as he could do with a holiday, but whether he goes or not he says there will be plenty of rubber to be ground up for scrap on arrival in England if the process is put into operation. The fact that, except in very rare cases, the goods are not vulcanized until they are made into their several forms seems to have been overlooked by the inventor, to say nothing of the circumstance that mineral matter and other materials besides rubber form components of rubber goods and that these must be uniformly mixed with the rubber before it undergoes vulcanization. Some remarks made in reference to this proposed departure made by representatives of some London rubber brokers in a discussion at the Ceylon exhibition are certainly much to the point. In substance they were to the effect that the manufacturers were ready enough to buy raw rubber whenever it was produced, but they did not want partially manufactured rubber; they preferred to do all the manufacturing themselves.

This is a matter of importance with regard to rubber solution, the railway and other carrying companies having much more stringent regulations with regard to a solvent flashing below 73° F. than for such as flash above this point and below 120° F. The common idea that rubber solution is an explosive body is not easy to remove, though it can only prove dangerous in this way when the naphtha vapors evaporate in a closed room and a light is brought into contact with them. I have as I write a collapsible tube bearing on its label the statement that it does not give off an inflammable vapor under 73° F. Probably it does not, but it still seems advisable to draw attention to the fact that the flash point of solvent naphthas varies considerably. This is due to the initial distillation, figures as a rule being ignored in a contract form, the usual stipulation being that 90 per cent. must distill at 160° C. or 95 per cent.

VULCANIZED
RUBBER FROM
CEYLON.

THE FLASH POINT
OF SOLVENT
NAPHTHA.

at 165° C. In the case of the old regular supply of solvent naphtha, chiefly composed of xylenes, only one or two per cent. came over before 130° C. When benzol and toluol, however, are cheap, it has frequently been customary to send out solvent naphtha containing a considerable proportion of these lower boiling constituents, a change which is probably not drawn to the rubber manufacturer's attention. Where such naphtha begins to boil below 100° C., I have found by careful tests on the standard Board of Trade apparatus that the flash point is from 70° to 72° F. while in naphtha boiling just below 130° C., it is 85° F. I mention these figures to show the variation which may occur in what is sold as solvent naphtha and as a matter where a very natural ignorance on the part of a solution maker might possibly land him in trouble. With regard to a certain much advertised soap, I understand that it is shortly to come under the Petroleum act in England, despite the emphatic declaration of experts in a recent enquiry that it did not give off inflammable vapor.

THE frequent references made in this Journal of late with regard to Guayule rubber have been read with much interest.

NOTES ON
RAW RUBBER.

Now that the price asked for it at first has been considerably reduced, it will no doubt come into increased demand. Although very free from fiber and sand the resin contents are very high and this is regarded in the rubber factories as a drawback. With regard to this point, however, I understand that samples have been submitted practically resin free, and if the process of extraction can be counterbalanced by the increased price obtainable, no doubt it will be regularly put on the market in this form. The process of course stands on a much better footing than the suggested one of extracting the resins from Pontianak, as the latter consists in the main of resin with only a small quantity of inferior rubber in it. The following figures I obtained recently from a sample of Guayule may prove of interest:

Rubber.	Resins.	Water.	Ash.	Total.
53.02	21.82	24.78	.38	100.00

As a comparatively new brand, the manicoba rubber is of interest. The chief drawback to it is the large amount of very fine sand it contains, and this makes it very difficult to wash clean enough for the finest work, otherwise its firmness and texture are of the front rank. It is hoped that this defect will be remedied, and indeed some parcels of specially prepared rubber which have come to England show that considerable progress has already been made in this direction.

COMPLAINTS are rife as to the damage caused to tires by the use of flint as road metal. It is stated that even where sea sand is supposed to be used this consists in reality largely of flint pebbles which grind up by the traffic into sharp splinters. These rapidly work havoc with pneumatic car tires and in cases have caused a reversion to solid tires which are not affected to the same extent. This flinty material is being largely used by municipalities as a surface sprinkling to prevent side slip of motor buses. It is found to work well in this direction, but naturally the cab owners who are not concerned with

FLINT AS
ROAD METAL.

side slip dangers find a good deal to grumble at in the practice. With regard to this grievance, I am afraid that unless some law is passed regulating the use of flint the trouble will show a rapid increase. In the south of England, especially in the London suburbs, chalk flints are largely used as road metal, and when the round nodules get broken they present sharp cutting edges. In the north of England, where there are no flints to be got locally, whinstone has been the hardest material in common use. Of late, however, in several districts waste chert, which is an impure form of flint mined and quarried for certain purposes, is being contracted for as road metal, and as this has the same hardness and cutting power when broken up, tires are likely to suffer to an increasing extent where it is used. This fact apart chert must be recommended as an efficient road metal, and as going a long way to lay the dust demon in limestone districts. Talking of flint roads near London, I was asked by a lady recently if the galosh people could not put a stronger heel on their products, as they so soon wore out on flint roads. I replied that the matter had possibly not occupied their attention and further that it would probably not pay them to put on a flint proof heel as the great bulk of the galosh output went to regions where the flint is unknown.

IN an article in the November issue of this Journal Dr. Esch says I have confounded carbonate of magnesia with the oxide in some remarks I made on the subject in September. This is not exactly the case, if what I wrote is carefully read, but I certainly assumed that Ditmar's experiments related to the carbonate and in this respect am glad to be put right by Dr. Esch. For the rest, in technical matters relative to the rubber trade, writers in different countries can only testify to their own experience. It may well be that oxide of magnesia is largely used in the rubber trade in Germany and America, as Dr. Esch says, but as regards this country there is very little used at the present time, the great bulk of the magnesia employed being the hydrated carbonate. This is of a particular composition for the trade, and I cannot subscribe to Dr. Esch's dictum that it has no more value than whiting. It is not a case of M_2CO_3 versus $CaCO_3$; the former contains free alkali while the latter does not. In saying this I am not throwing any doubt upon the efficacy of the oxide as an accelerator of vulcanization. It follows lime in this respect, and the use of lime in small quantities where resinous rubbers are concerned, or where the sulphur has to be limited, is a well established practice. The novelty of Dr. Esch's remarks is in the large quantities of magnesia oxide that are recommended, and it seems to me advisable to proceed with caution before changing from the hydrated carbon to the oxide on the large scale. Certainly there is about double the amount of the magnesia oxide in the calcined product that there is in the carbonate as sold but then the price is at least twice as much and this is a matter which is not passed over with indifference in the trade. Dr. Esch mentions specific brands of magnesia as being suitable—in this respect I don't care to emulate him; it seems rather like trespassing upon the domain of the advertisement manager. His remarks on the relative densities of the magnesia products are interesting and will be welcomed by many who have been somewhat in the dark on the subject. With regard to the processes of manufacture he mentions, that is the interaction of solu-

tions of magnesium and sodium salts, I may say that the British firms employ an entirely different method into the details of which with true native secretiveness they would hardly thank me for entering.

THE decision of the courts permitting the reduction of capital of the Dunlop Pneumatic Tyre Co., Limited, on the lines proposed by the directors, is being appealed against by the deferred shareholders, so we have not yet come to a finality in these protracted and acrimonious proceedings.

RUBBER AS A "FIREPROOF" MATERIAL.

RUBBER is not generally included among fireproof construction materials, which fact renders of all the more interest the mention of its use in a paper on "Construction of a Fireproof Excursion Steamer," read by Mr. William Gatewood before an engineering society at Philadelphia. He described a vessel which is being built for use on the Potomac river. Of course the term "fireproof" does not mean that the vessel is incapable of destruction by fire, but that the amount of combustible material has been limited, and what remains is so protected and distributed that the chances of a fire starting on board are greatly reduced; and the spread of a fire would be practically impossible even should one get a start.

Rubber tiling is to be used extensively on the decks of this steamer, a special cement being used, where it is necessary to secure the adherence of the rubber to steel. The covering to be used on the exposed portions of the saloon and shade decks was a subject of much consideration. The usual canvas was not considered a satisfactory covering on account of the danger from fire, as lighted cigar ends, etc., have been known to cause trouble on canvas decks. It was thought that some form of asbestos tiling could be used for this purpose, but samples were tested and found to be unsuitable, as the asbestos tiles were not tough enough on the surface to stand the wear; and the adhesion between the tiles and the cement used in laying was also defective after exposure. It was finally decided to cover the wood decking with canvas to secure water-tightness, and on this to lay interlocking rubber tiling.

SPENCER'S COLORADO RUBBER.

ANOTHER United States patent has been issued in connection with the Colorado rubber plant. The application was filed April 29, 1905, by Benjamin F. Spencer, and the patent (No. 834,771) is assigned to The Western Parent Crude Rubber Co., of Santa Fé, New Mexico. It relates to a rubber like and waterproof gum, comprising the agglomerated gummy portions of the plant *Picradenia floribundi utilis*, and the residual portions of a volatile hydrocarbon solvent used in the preparation of the gum.

CHICLE is imported into the United States to a large extent by way of Canada, though produced only in Mexico and other countries to the southward. The explanation is that the Chicle is very wet when shipped, and it is sent in vessels around by Canada to dry out. The duty in the States is 10 cents a pound, and the drier the gum when imported the less there is to pay at the custom house.

NICARAGUA WIND AND RUBBER.

AS was chronicled in the last issue of THE INDIA RUBBER WORLD, the gale which did so much damage about Cuba and through the Caribbean sea was said to have done much harm to the city of Bluefields and also to the thrifty plantations that are up on the Escondido river, in Nicaragua. As promptly as possible THE INDIA RUBBER WORLD got its special correspondent to investigate the damage done and to report both by letter and photograph.

To begin with, the story that Bluefields was practically blotted out, which was taken from Nicaragua newspapers, is perhaps exaggerated, as the city stands about as it was



NICARAGUA CYCLONE.

[Ceará Rubber Tree Broken off Short by the Wind and 29 Days Later Having Shoots Three Feet Long Upon it, Fully Leaved Out.]

before the great wind, and the actual damage done to buildings could easily be repaired by the expenditure of \$75. The harm done to rubber plantations, however, was more serious. The wind came down from the northwest and is known to have blown at the rate of something like 125 miles an hour.



NICARAGUA CYCLONE.

[Castilloa Rubber Trees on Manhattan Plantation Entirely Stripped of Leaves, and 29 Days Later Being Partially Leaved Out and Most of Them Thrifty, although Bent Over by the Wind.]

It destroyed most of the banana plantations and injured the rubber trees appreciably.

On the Manhattan plantation, for example, it uprooted some trees, stripped most of them of their leaves, and bent them over so that most of the trees now standing show a slant, from a trifle over the perpendicular to 45 degrees. The conservative estimate, however, gives 60 per cent. of the trees as being just as good as they were before, with the exception of the fact that they were obliged to pause in their growth to send out new leaves.

The illustrations accompanying our correspondent's record are more than usually interesting. They show, for example, a Ceará rubber tree broken off short, but promptly recovering itself and sending out thrifty shoots that prove that the tree itself was not materially injured. The other picture shows *Castilloas* that, even while they are bent away from the perpendicular, are rapidly being covered with leaves and are in every way as good as if they had gone through no such experience.

The subject of high winds and their effect upon planted rubber, either *Castilloa* or *Hevea* or, indeed, Ceará, has interested the planters exceedingly, and this record of what really happened after one of the most serious gales that the tropics has known is of great value, and further than that proves that the rubber trees will stand much more punishment than was previously thought.

PARA RUBBER SEED OIL.

SOME notes of interest on experiments made with oil from seeds of the Pará rubber tree are contributed by Mr. L. Wray to the *Journal* of the Federated Malay States Museum. He reports that, on an average, 1000 husked and sun dried kernels were found to weigh $4\frac{1}{2}$ pounds avoirdupois. At an estimated 40 per cent. of oil in the kernels, 1000 seeds should yield 1 pound $12\frac{3}{4}$ ounces of oil. By the same figures, one ton of dried kernels would yield about $96\frac{1}{3}$ gallons of oil. According to Mr. Wray's observations, one tree may be expected to average over 1000 seeds, though some will produce many more.

In order to procure the most valuable commercial oil, it was found necessary to put the kernels into the press immediately after they had been dried and pounded. Any delay tended to give the oil a darker and cloudy appearance. The longer it was kept the deeper became its color. Some of the oil last expressed was quite thick. As it became viscid it was more difficult to express and required greater pressure to expel it from the cake. As these experiments were carried on with a locally made press without sufficient pressure to expel all the oil from the meal, it was found impossible to determine the comparative yield of the fresh and the old meal, but there appeared to be a much greater yield from the former.

There are on exhibition at the Perak museum three samples of these oils. One is from freshly crushed seeds, one from seeds which had been crushed for about a week, and the third from seeds crushed about two weeks.

RUBBER footwear was imported into Bulgaria in a recent year to the value of 740,829 francs (= \$142,980), Russia contributing 440,425 francs worth and Austria-Hungary the principal part of the remainder.

PROGRESS OF RUBBER PLANTING.

FEDERATED MALAY STATES.

THE eighth annual report of the planters' association of Negri Sembilan shows that at the end of 1905 there had been planted 6491 acres in Pará (*Hevea*) rubber and 263½ acres to "rambong" (*Ficus*). Much of the Pará is planted on lands formerly devoted to coffee, the production of which is being given up, and the *Ficus* is mostly in connection with coconuts.

At a shareholders' meeting of the Highlands and Lowlands Para Rubber Co., Limited (London, October 12), Sir Frank A. Swettenham, K. C. M. G., in the chair, it was stated that the company's prospectus, issued some months before, was based upon a probable yield this year of 65,000 pounds of rubber, to sell at an average of 5 shillings. The actual quantity produced to the end of September was 76,160 pounds, and the price realized for what had been sold was more than 5s. They had raised the estimate for the year to 108,000 pounds. The prospectus mentioned 1958 acres under rubber. An additional 1000 acres will be planted during this business year and the same acreage is planned for next year. A dividend is expected, on a capital of £310,000 [= \$1,508,615].

The first annual report of the Federated Malay States Rubber Co., Limited, presented at the shareholders' meeting at Antwerp on October 1, showed a net profit of 67,093.75 francs [= \$12,040.10], out of which was recommended a 5 per cent. dividend on 1,250,000 francs of the company's capital. When the company was formed the property taken over embraced 85,000 rubber trees of different ages, and considerable later planting has been done. During the year 13,222½ pounds of rubber was gathered and sold at an average of 5s. 9d. [= \$1.39½] per pound. The plantation is in the state of Selangor and under the management of Mr. E. B. Skinner, who has been identified with rubber planting for a number of years. The directors of the company include several rubber merchants in Antwerp. Mr. Ed. Bunge being chairman of the board.

An official warning has been given, in the Federated Malay States, that the government will not tolerate the acquisition of valuable areas of land by persons whose only intention is to utilize it for their own immediate profit by the promotion of over capitalized companies, for planting rubber and the like. This is reported to have checked unsound financial development.

The old *Hevea* rubber trees at Penang, tapped for the tenth consecutive year, at the age of 10 years, yielded 4 pounds 12½ ounces of dry rubber, or a total of 31 pounds 9 ounces from the beginning. The average yearly yield was 3 pounds 2 ounces per year, and it is believed by those in charge that by tapping oftener a larger yield could have been gained.

The falling off in the production of tapioca and the consequent rise in price has directed attention to the advisability of planting tapioca as a "catch crop" in connection with *Hevea* rubber. A good catch crop is desirable, on account of the length of time necessary for rubber to mature. Mr. H. N. Ridley, of the Singapore botanic gardens, has evidence both for and against planting rubber and tapioca together, and invites fuller information.

Mr. E. W. Main, of Kew Gardens, has been appointed superintendent of the government plantations at Batu Tiga, Selangor, in place of Mr. Stanley Arden, resigned, and doubtless will continue the important series of experiments in rubber formerly carried on by Mr. Arden.

RUBBER PLANTING IN CEYLON.

The Consolidated Estates Co., Limited, of Ceylon, who have added rubber to their tea interests, sold during the last business year 5534 pounds of plantation rubber for £1331 7s. 6d., or an average of 4s. 9¾d. [= \$1.17 cents] per pound, for all qualities. More rubber was planted during the year, and additional land for rubber acquired. This year's rubber crop is expected to reach 8000 pounds.

The highest prize for Ceylon grown rubber at the Peradeniya show was awarded to the Duckwari Tea Plantation Co., Limited, in Rangala district. There are 832 acres in tea, of which 800 are planted also in rubber, besides 35 acres in rubber alone. The company is capitalized at £20,000 and has offices in London.

The sale is reported of Diekheena estate, in the Bentota district, Ceylon, embracing 137 acres, fully planted in rubber, 2 years old. The exact price is not given, but is believed, however, to be 45,000 rupees [= \$15,000, gold], or about \$110 per acre.

The area available for rubber in Ceylon is now regarded as much larger than before the rubber exhibition. The first prize for Ceylon rubber went to Duckwari, and was grown at an elevation of 2600 to 3000 feet, and if they could grow profitable rubber at that elevation, it opened up a larger area for cultivation than had been supposed.

An increase in the London brokers' orders for the purchase of plantation rubber shares not only at home but for clients in Ceylon and the East generally, says *The Home and Colonial Mail*, is attributed to the interest aroused by the recent rubber exhibition at Peradeniya.

On request of the director of the royal botanic gardens, in relation to showing foreign and other visitors over typical rubber estates during the rubber exhibition, the Kegalla Planters' Association designated for this purpose two—Yataderia and Ambadeniya estates—to be open to all visitors introduced by the secretary of the Exhibition. *Yataderia*, owned by the Yataderia Tea Co. of Ceylon, Limited, has 1040 acres in tea and 250 in rubber, besides about 90,000 rubber trees in tea. At the end of 1902 they had 55,000 rubber trees of all ages, and they began tapping in 1904. *Ambadeniya*, owned by the Ceylon (Para) Rubber Co., Limited, is devoted to rubber alone, having now 720 acres planted.

Mr. Gustave Van den Kerkhove, the rubber expert of Brussels, contributed to the recent Ceylon Rubber Exhibition a map of Africa, with photographs showing the various native methods of coagulating rubber.

Rubber stealing is beginning to figure in police court cases. At Kandy a man charged with stealing rubber biscuits from Nilambe estate was sentenced to six months rigorous imprisonment. At Singapore a Malay convicted of stealing rubber from an exhibit at the agri-horticultural show was sentenced for two months.

MEXICAN RUBBER PLANTING NOTES.

THE Orizaba Rubber Plantation Co. (Chicago) some time ago ordered 5000 Pará rubber (*Hevea*) "stumps" from Ceylon for their plantation "Chival," in Chiapas, Mexico. After being 85 days *en route*, when the stumps arrived in Mexico 4188 showed "perfect vitality," and were planted, all looking well at last accounts.

Isthmus Plantation Association of Mexico (Milwaukee, Wisconsin) issue a series of "Views of Hacienda Del Corte" which are most informing as giving an idea of the development of a rubber estate, by pictures without many words. The plantation is at Palomares, state of Oaxaca, and has on it some rubber 6 years old.

Montezuma Agency (Chicago), whose "Montezuma" plantation, in Chiapas state, is being developed. Grijalva Land and Coffee Co., Limited, have issued 6000 shares of stock, one acre to be planted to rubber or other crops for each share sold, and report 400 acres planted to rubber to date.

The Playa Vicente Rubber Plantation and Development Co. (San Francisco) have published the annual inspection report made last spring by Dr. O. P. Jenkins, of Stanford University.

Batavia Company (Milwaukee, Wisconsin), who are planting *Castilloa* rubber largely in Mexico, write to THE INDIA RUBBER WORLD: "We take considerable pride in our small group of Pará and Ceará rubber trees that we have growing on our plantation, a few of which trees will produce seed this year."

RUBBER IN OTHER LANDS.

THE Philippine forestry department was represented at the Ceylon rubber exhibition by Mr. Wallace J. Hutchinson. He said to a *Times of Ceylon* reporter that opinion in the Philippines had been in favor of planting Ceará, but he thought that when he reported on his return the preference would be given to Pará, and that Ceylon would become the source of supply for seeds. Mr. Hutchinson said that not more than 80 acres had been planted to rubber in the Philippines.

Mr. W. H. Johnson, for some years past director of agriculture in the Gold Coast Colony, has transferred his services to the Mozambique Company, engaged in developing a great concession in Portuguese East Africa. Mr. Johnson has paid special attention to developing an interest in rubber planting in the Gold Coast, and it may be that he will devote his efforts to work on similar lines in the new field. Mr. Johnson is the author of a work on Pará rubber reviewed some time ago in these pages.

At a recent meeting of the United Planters' Association of South India, at Bangalore, a resolution was adopted, deprecating the competition by the government with private enterprise in rubber planting. A number of "experimental" plantations have been formed, in various provinces, and the planters fear that these may develop into productive estates, which the government may feel disposed to extend.

RUBBER PROSPECTS IN HAWAII.

MR. BRAINERD H. SMITH, formerly a merchant of North Brookfield, Massachusetts, going thence to live in Hawaii for the benefit of his health, recently visited his old home. Mr. Smith's business in Hawaii is the sale of shares in an important rubber and coffee plantation in Mexico. He informs THE INDIA RUBBER WORLD: "Rubber planting in Hawaii is going forward quite rapidly in a comparatively

small way. There have been three plantations started there, the oldest being about two years, on which the Ceará trees show a remarkable growth and the yield seems very promising. The *Hevea* stumps, which were imported, show hardly any growth, and I think all are planting the Ceará exclusively. They are already producing their own seed from these trees."

AN IMPROPERLY TAPPED RUBBER TREE.

THE illustration on this page represents a wild rubber tree (*Castilloa elastica*) on the estate in Chiapas (Mexico) of the Orizaba Rubber Plantation Co. A letter from the company to THE INDIA RUBBER WORLD states: "This particular tree we found among our fields of planted rubber the day after it had been tapped by one of the Indians. We have a large number of these wild trees and of course take great pains to see that they are not mistreated, but in this particular in-



stance the Indian who was sent out to get some rubber milk had been thoroughly instructed and we supposed he understood his business. In future we shall allow no tapping done by the Indians, except with special tools which we have or may procure." A machete has been used in the tapping of this tree, deep cuts being made into the wood for—which there is absolutely no necessity—causing great injury to the tree. It is such practices that have caused the disappearance of native rubber trees in so many localities. The object in presenting the illustration is to point out the importance of careful and rational tapping if either wild or plantation trees are to be preserved, and, in view of the character of labor which must be depended upon in Mexico, of providing the tappers with implements specially devised to render such injurious cutting impossible.

GROWTH OF "CASTILLOA" RUBBER IN MEXICO.

THE series of views on this page, based upon photographs taken at various times of the same tree illustrate graphically the rapid rate of growth of the Mexican rubber tree (*Castilleja elastica*) under cultivation in favorable circumstances. The picture at the upper left hand corner represents a *Castilleja* seedling photographed at 6 months of age. It will be seen that the plant is not taller than the man standing in the background. The picture beneath it shows the tree at the age of 2½ years. The view at the top of the next column represents the tree at 3½ years, and the fourth and last picture the same tree at 5½ years of age. In this a large tree is shown—nearly a foot in diameter, with a height that can easily be estimated. The fact that such development is possible in five years goes far to explain the enthusiasm of the planters who have selected good soil and good locations for rubber, and have seen their trees growing at a rate which would seem like magic to those whose knowledge of tree growth has been confined to the temperate zones.

The trees referred to were photographed on the "Del Corte" estate of the Isthmus Plantation Association of Mexico, at Palomares, state of Oaxaca, Mexico, the headquarters of which are at Milwaukee, Wisconsin. This is one of the earlier plantations of rubber in Mexico.



6 MONTHS OLD, FEBRUARY, 1901.



3 1-2 YEARS OLD, FEBRUARY, 1904.

TAPPING "CASTILLOA."

IN writing of a visit made by Mr. A. B. Luther, a well known rubber plantation manager in Mexico, to "La Zaenalpa" rubber plantation, he says:

"We there saw in use a tapping knife that gave extraordinarily satisfactory results. The wound it makes is clean, uniform, of rounded shape, and consequently of quick and easy healing. Its efficacious gage thoroughly prevents the incision penetrating the "cambium" or the wood of the tree, and the latex flows down the gash made without a drop overflowing and running down the side of the tree, the same dropping nicely into a *tichela* or whatever other receptacle may be attached to the bark or placed at the base of the tree.

"While at La Zaenalpa we demonstrated beyond doubt that tapping from day to day is impossible on the *Castilleja*; that this species can be tapped with favorable results every three or four months; that it is not practicable to tap during the dry season, the production being very small at such times; that the entire trunk of the tree and its large branches can be milked through tappings two feet apart without injury to the tree; and that the task of tapping and harvesting of rubber milk is destined to be easy and simple."



2 1-2 YEARS OLD, FEBRUARY, 1903.



5 1-2 YEARS OLD, FEBRUARY, 1906.

NEW GOODS AND SPECIALTIES IN RUBBER.

"PLUMBERS' FRIEND" AND HANDY FORCE PUMP.

THE force pumps as shown herewith are well named the "Plumbers' Friend," for in the plumbers' work no part of his equipment can take precedence of this. The Elkhart Rubber Works (Elkhart, Indiana) are putting out pumps with both long and short handles that are made of the best rubber obtainable the wearing qualities of which are said to be everything that could be desired. The long handle pump is 4 inches in diameter with a handle 4 feet long, while the short handle ones are made in three sizes, 3 inches in diameter, $2\frac{1}{2}$ inches and $1\frac{1}{2}$ inches. A guarantee of satisfaction is said to go with the pump.

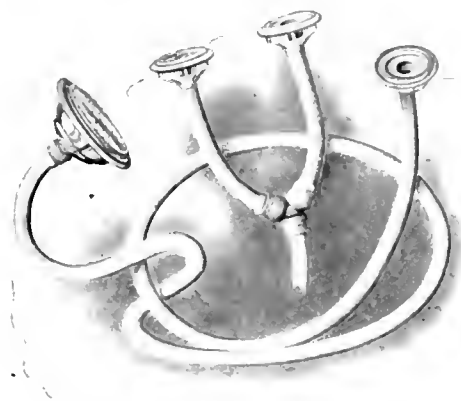


SQUASH BALLS.

EVEN skill in squash is at a discount if the player has not the best of balls for the game. The Goodrich Squash Balls stand very high and have added zest to many a good game that would otherwise have proved spiritless. These come, in style, covered and uncovered. Those covered are sewed with gut, have thoroughly seasoned center of triple-ply, cross-grained wall and reinforced seams, have felt covers of finest stock, and a diameter of $2\frac{7}{16}$ inches. The weight is 2 ounces. The uncovered ball comes in dull red, black, heavy all rubber wall and diameter of $1\frac{1}{4}$ inches. The weight is 1 ounce. These balls are also for use in the game of tennis which is somewhat more in favor since out-of-door games have become so popular among both men and women. [The B. F. Goodrich Co., Akron, Ohio.]

"KLINGTITE" BATH SPRAYS.

THE quickness with which these sprays may be attached and detached, and the fact that a positive connection can be



Patent applied for.

assured under all conditions without regard to the varying pressure of the passing liquid, and without recourse to tools of any kind, have gone far in establishing them in public favor. The secret of the easy and expeditious management of the sprays is in the hose connection, which is attached by simply pushing the end of the hose through an opening in the disk and over a hollow cone, thus making an absolutely tight joint that becomes more effective by increased pressure or any lateral strain. As it is almost impossible to use a bath spray with-

out kinking, thus accumulating pressure the 'Klingtite' connection is of especial value, as the rubber tubing of these sprays withstands the full force of ordinary city water and the connection also withstands pressure, or rather it is more effectual under increased pressure. The casings are made from sheet aluminum, highly polished. The James Manufacturing Co., No. 1939 Broadway, Denver, Colorado.]

"THE WIZARD" PENCIL HOLDER.

A CONVENIENCE which saves time, patience, and pencils, is the "Wizard" Pencil Holder. It is such an easy thing for a man to place a pencil in the wrong pocket, to snap the point, or lose it altogether, that any device whereby it may be securely kept is welcomed most cordially. A small, neatly made receptacle of rubber, attached to the vest pocket, as illustrated herewith by the dozen, serves the purpose for which it is intended



that of preventing loss. An opening at the top and bottom of the case overlapped by a small flap is the plan on which the "Wizard" is made. [The Mitzel Rubber Co., Carrollton, Ohio.]

TURNBUCKLE FOR HARTFORD TIRES.

THIS illustration relates to the new form of turnbuckle, to be fitted regularly for 1907 to all Hartford Universal rims.

for Dunlop or Clincher type tires. The original turnbuckle, made by the Hartford company in 1904, was made on the same principle except that it had a round end crank wrench in place of the square end which has now been substituted in the 1907 improvement.



The new device enables one to adjust the tire to the rim with success, the turnbuckle taking up any variation in the ring or rim. Its use ensures perfect fit of tire to rim which is essential to safety as well as to long even wear, and likewise facilitates the attachment and detachment. It is, in brief, a small worm gear, made integral with the right-and-left threads connecting the two ends of the expanding ring in the rim. Threads and gear being one piece, no "give" is possible to either, and the action of spreading apart (for detaching) and drawing together (for attaching) is made positive and effective by the square end crank wrench fitting the center opening in the portion below the rim. Care has been taken to give the turnbuckle the most positive location, so that no part of it can move in the slightest degree from the opening through which access

is had. When a space shows between the ends of the ring, it is loose and as soon as the ring is taken off—nothing holds it now—the deflated tire may be removed for repair or replacement. Conversely, after the tire and rim are put back, the turnbuckle is screwed up, and the tire is ready for inflation. [The Hartford Works Co., Hartford Connecticut.]

VENTILATED RUBBER BOOTS.

If the patentee of the Ventilated Rubber Boot finds the theory that he has worked out as practical as it seems, the chief objection to the wearing of rubber boots will have been removed. The ventilating openings in the foot lead to channels which are conducted upward. A series of pockets is produced in the foot section by the pressing out of the waterproof material and the lining into which the heated air escapes through small perforations. In hip boots some of the chambers lead to the top of the hip section and others to the top of the knee section when the hip is folded down on the knee section, in this way providing for a complete ventilation under all conditions of use. This scheme of ventilation not only serves the uses of extreme comfort, but strengthens the shoe. The patentee is Peter M. MacKaskie of Zonopah, Nevada.

THE "IDEAL" SOLID HEEL.

NAILS for attaching the heel of a rubber shoe to the insole are apt to make trouble for the wearer, in that they are liable to pierce into the heel of the foot as the boot heel wears down. With the "Ideal" heel this is not possible for the five stout nails that are in each heel are solidly clinched on to the insole. The method employed in doing this makes any discomfort impossible. This method, too, prevents



damage on boat decks or finished flooring, as some projecting nail heads have a habit of doing. Another feature in favor of the Ideal heel is that of its having an all-rubber surface, the nails being embedded, which makes walking easier and noiseless. These are especially desirable in the lumbermen's goods, although the new device is used on all solid heel rubber goods made by the company exploiting it. [The Merchants' Rubber Co., Berlin, Ontario.]

LEATHER TOP LUMBERMAN'S SHOE.

THE advantage of a leather top lumberman's shoe in some situations will readily suggest themselves. Such an article is made by The Merchants Rubber Co., Limited (Berlin, Ontario). The leather is of fine quality, soft and pliable, black pebbled grain. The upper of the bottom is made with a snag resisting interlining of long fiber twisted cotton, thoroughly impregnated with rubber. The sole is made of tough rubber, thickened at the ball, having the corrugated part extend to and meet the heel, thus giving extra shank protection. The leather top is set inside of the rubber bottom and sewn to it with three rows of heavy silk hardash, having the threads countersunk in the channels of the rubber beading on the upper. By sewing on the inside, the leather does not

come in contact with rubber, and any oil that might be injurious will be absorbed by the heavy fusion cotton lining.

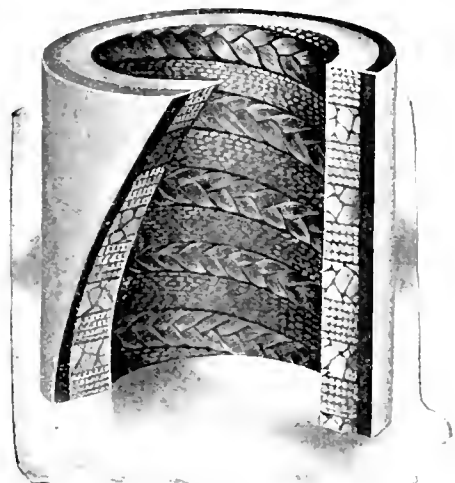
GOODRICH CLINCHER MOTOR CYCLE TIRE.

ONE of the chief requisites of motor cycling is durability of tires. This means, of course, a tire that is capable of withstanding good hard riding and plenty of it. Strength is the first consideration in this connection, but by no means the last. It is quite as necessary, at any event for the comfort of the rider, that the tire be reasonably soft and pliable. These qualities are combined in the Goodrich Clincher Motor Tire to a very unusual degree, and afford the rider a freedom from responsibility arising from care or thought of possible inconvenience or something worse, liable to occur from accidents. While no tire is accident proof some are much farther removed from the probability of disaster and its accompanying peril and—inconvenience—than others, from the possibility, and too great care cannot be given to their selection. The number on the market to make a choice from are almost legion and each one is said to be the best, but the palm must be awarded to those having the greatest number of good points. [The B. F. Goodrich Co., Akron, Ohio.]



COMBINATION ROD PACKING.

THE packing here illustrated is made of alternate spirals of square duck and braided flax with a cushion backing of thick rubber, and this in turn is protected by a wrapper of duck. It will be seen that this affords a springy, non-hardening, and durable packing. It may be used with equally good results for steam or water and for hydraulic pumps, steam hammers, and where repeated shocks must be endured it especially recommends itself. It is made in sets to fit all sizes of rods and stuffing boxes. The confidence of the manufacturers in this product is indicated by the fact that they offer it to the trade at a price above most other packings in the market. [The Mechanical Rubber Co., Chicago Rubber Works.]



A RECENT sale in London included a very nice lot of *Castilloa* rubber from Java at 4s. 2d. [= \$1.01 $\frac{2}{3}$] per pound.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA

ISSUED NOVEMBER 6, 1906.

- N**O 834,801. Pipe coupling [with elastic packing ring]. H. Day, Detroit, Mich.
- 834,906. Bottle seal [with interior rubber band]. J. Hermann, Cincinnati.
- 834,908. Tool for detaching and resetting tires. P. L. Hunter, Cleveland, Ohio.
- 834,911. Inflation valve. J. E. Keller, Jr., Litchfield, Conn.
- 834,963. Tire cover. F. C. Brock and A. M. Schaffer, assignors to The Vehicle Apron and Hood Co., all of Columbus, Ohio.
- 835,005. Wheel tire. [Pneumatic, with intermeshed wire coils.] A. S. Allen, Brookline, Mass.
- 835,035. Physical exercise apparatus. J. H. Ringley, Liverpool, England.
- 835,050. Fire extinguisher. F. Vost, Weehawken Heights, N. J.
- 835,075. Apparatus for fresh air treatment. S. H. Mahaffy, St. Louis.
- 835,079. Cover or wearing surface for wheel tires and other objects exposed to wear. [A process of producing solid rubber vehicle tires with inserted woven layers, consisting in embedding woven material in sheets of rubber; superposing the sheets to form a block; cutting the block diagonally into strips; adhesively and firmly joining the ends of the strips; cutting the strips so formed transversely; and joining the resulting cut portions together by their ends to produce a tire in which the threads of the woven material run obliquely to all four external surfaces.] B. Nedselski, Riga, Russia, assignor to The Firm of C. Medler & E. Seeger, Moscow.
- 835,091. Sight for firearms. A. J. Aubrey, Meriden, Conn., assignors to Sears, Roebuck & Co., Chicago.
- 835,134. Storm front for vehicles. J. M. Harter, Wabash, Ind.
- 835,272. Hose coupling. J. M. Bailey, Wheeling, W. Va.
- 835,274. Mat. [In combination, a series of bars, elastic treads clamped between the bars in pairs, said treads rising higher than the bars, a set of distance blocks between the various pairs of bars separating them while allowing draining space between them, and a projection for the elastic treads clamped between the sides of the treads and the adjacent bars.] P. S. Burns, Cleveland, Ohio.
- 835,300. Hose clamp. J. Clark, Bradford, Pa.
- 835,408. Sprayer. E. A. DeVore and F. Swain, Indianapolis, Ind.

Reissues.

- 12,551. Can closure. H. F. Maranville, Akron, Ohio.

Trade Marks.

- 10,734 and 10,735. Boston Belting Co., Boston. The words BOSTON and NIAGARA. For marking rubber and composition belting, hose, and packings.
- 14,598 and 14,599. Peerless Rubber Manufacturing Co., New York. The letter P enclosed in a diamond shaped outline and the word PEERLESS. For rubber belting, hose, and machinery packing.
- 19,054. Hood Rubber Co., Boston. A bow shaped design. For rubber boots and shoes.
- 22,051. William H. Schaefer, Toledo, Ohio. The letter S in black, with SCHAEFER'S FRUIT JAR RINGS in white lettering thereon. For fruit jar rubbers.
- 22,147. Walter McKittrick, St. Louis. Conventional figure with letters SWAS underneath. For rubber boots and shoes.

ISSUED NOVEMBER 13, 1906.

- 835,496. Vaginal syringe. W. H. Brandon, Kokomo, Ind.
- 835,502. Automobile tire envelope. Charles W. A. Cornish, assignor of one-half to R. B. Miller, both of Pass Christian, Miss.
- 835,522. Rubber cutting machine. [For forming the parts of rubber footwear.] C. L. Higgins, Montreal, Canada.
- 835,562. Hand stamp. L. K. Scottford, Chicago, assignor to Independent Mfg. Co., Muskegon, Mich.
- 835,588. Swimming suit. W. O. Wells, Gary, Fla.
- 835,778. Pneumatic valve seat. G. P. Brand, New York city.
- 835,793. Vehicle wheel. [Resilience is provided for by means of springs within the spokes and rubber bushings underneath the

rim.] J. M. Kerwin, T. F. Broadhall, Jr., and H. H. Brown, all Philadelphia.

- *35,803. Finger cot. A. P. Witten, Akron, Ohio.
- 835,808. Tire. [A tire, one of the clincher type, in which a knitted fabric incorporated therein, the same having knitted reinforced portions, extends therewith along the edges of the shoe.] H. T. Bagge, Yonkers, N. Y.
- *35,039. Tire for wheels. [The combination of a canvas solid rubber tire on the rim, such tire consisting of an endless metallic band having layers of canvas wrapped upon the band, and canvas being embedded in it and cemented to either face of said material, and bolts passing through the rim and entering holes in the band.] J. Cooper, Cambridge, England.
- 835,950. Diving apparatus. T. Iwanami, assignor of one-half to R. M. Grace, both of Washington, D. C.
- 830,950. Toy [comprising a ball and elastic band.] L. H. Polyzoudt, Fayette City, Pa.

Trade Marks.

- 10,415. Archibald Turner & Co., Leicester, England. Picture of a rock with the word FIRMITAS across its face. For India rubber webbing.
- 22,341. Consolidated Hoof Pad Co., New York. The word SLIP FOOT in a semi circle. Hoof pads for horses.

ISSUED NOVEMBER 20, 1906.

- 836,077. Cushion tire for wheels. T. J. Aurand, Watscka, Ill.
- 836,082. Process of manufacture of articles in rubber and for their repair. A. S. Bowler, Putney, England.
- 836,180. Self filling fountain pen. R. Conklin, Toledo, Ohio.
- *36,285. Tire. [The combination with a rim, pierced with holes, of a ring of resilient material lying in the rim and grooved on both faces with longitudinal and transverse grooves.] D. C. Thomas, Bronwydd Llanihen, England.
- 830,367. Hypodermic syringe. H. J. Detmers, Columbus, Ohio.
- 836,512. Method of extracting Gutta-percha. Consists in mechanically crushing the leaves and buds to a pulp, adding from 15 to 20 per cent. of Gutta-percha in small pieces, thoroughly mixing and boiling to a temperature of 110 to 125 centigrade, and finally cutting up and washing the resultant compound by means of heated rollers and the presence of a stream of cold water. E. C. Larsen, Singapore, administratrix of Alme Arnaud.
- *36,516. Combined fountain pen, blotter, and other appliance. H. I. Lurye and N. H. Lewis, New York city.
- 836,524. Pneumatic life saving suit. E. Morrell, San Quentin, Cal.
- 830,557. Elastic tire for wheels. L. Boitault, Paris, France.
- 830,569. Pneumatic tire. [Comprising a sealing mixture, for punctures, composed of a liquid mixed with feathers or long fibers.] A. Dow, New York city.
- 830,626. Garter. D. Broadbelt, New York city.

Trade Marks.

- 4,761. George A. Alden & Co., Boston. The word LEAO enclosed in diamond shaped outline. Marking India-rubber and Gutta-percha gums.
- 4,762. George A. Alden & Co., Boston. Letter A enclosed in horseshoe. For marking India-rubber and Gutta-percha gums.
- 18,481, 18,485, 18,487, and 18,488. The Diamond Rubber Co., Akron, Ohio. The words TITAN, MOOSE, SPHINX, and GULF. For marking rubber belting, packing, hose, and woven cotton and rubber hose.
- 21,300. L. E. Waterman Co., New York city. The word WATERMAN'S. For marking fountain pens, fountain pen feeds, fountain pen caps, and fountain pen barrels.
- 22,204. Eagle Pencil Co., New York city. The word FLASH. For marking fountain pens.

ISSUED NOVEMBER 27, 1906.

- 830,743. Fabric coating machine. Richard Editor, New York.
- *36,772. Process of manufacturing pneumatic tires. A. H. Maris, Akron, Ohio.
- 830,802. Brace [suspenders] for cotton pickers. W. I. Daniel, Commerce, Ga.
- 830,837. Clasp. J. A. Shay, New York city.
- 830,864. Adjustable and collapsible fire hose nozzle supporting device. A. D. Cole, Camden, N. J.

- 836,846. Jacket for foot ball players. [In two parts, with elastically yielding sections.] A. Schemel, Yonkers, N. Y.
 836,905. Fountain pen cap and barrel. J. N. Whitehouse, New York city, assignor to Le White Mfg Co.
 836,909. Self filling fountain pen. *Same*.
 836,920. Vehicle tire and rim. E. R. Keith, Randolph, Mass., assignor of one half to T. J. Reardon and D. H. Lauman.
 836,930. Hose coupling. C. Klug and J. Hummer, Chicago.
 837,057. Fishing float. [Hollow; of hard rubber.] G. E. Hall, Akron, Ohio.
 837,085. Vaginal syringe. G. C. Loar, Ottumwa, Iowa.
 837,091. Dust and rubbish sucking machine. F. Melichar, Brandeis, N. L., Austria-Hungary.
 837,098. Hose coupling for railroad trains. A. E. Morton, Pittsburgh, Pa.
 837,151. Wheel. J. Thomson, assignor to Trident Tire Co., both of New York city.
 837,152. Wheel. *Same*.
 837,153. Wheel. *Same*.
 837,193. Process for agglomerating fibrous substances. C. A. De Caudenberg, Nice, France.
 837,206. Safety device for watches. F. D. Ely, Salt Lake City, Utah.

Trade Marks

- 2,065. New York Sporting Goods Co. A shield surmounted by a deer with the firm's name on face of shield. For marking goods used in base ball, tennis, and other sports.
 15,434. American Lead Pencil Co., New York. The words BEA'S ALL. For rubber erasers.
 21,541. Edward G. Soltmann, New York. The word JUMBO. For rubber erasers.
 21,589. United and Globe Rubber Mfg. Cos., Trenton, N. J. The word FLEX-BELL. For rubber hose.
 22,155. Edwin C. Burt Co., Brooklyn, N. Y. The name EDWIN C. BURT. For boots, shoes, rubbers, etc.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

* Denote Patents for American Inventions.

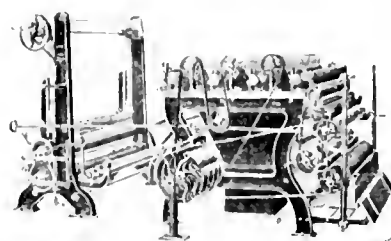
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 21, 1906]
 13,508 (1905). Wrapper for enclosing pneumatic tire when not in use. H. Harrison, Blackfriars; E. B. Killen and G. Brand, London.
 13,510 (1905). Elastic tire. [Constructed so as to distribute the strains transmitted from the tread to the base of the tire.] T. Dunn, London.
 13,604 (1905). Submarine apparatus. [Self contained diving dress which may be used for escaping from disabled submarine vessels, and to air purifying and oxygen supplying apparatus combined with the same.] H. A. Fleuss, Reading, and R. H. Davis, London.
 13,743 (1905). Pneumatic tire tread. [For the prevention of side slip and dust raising.] H. Harrison, Birmingham.
 13,871 (1905). Tire covers. [Containing leather which is dried and incorporated in the cover by hot vulcanization.] E. E. Michelin, Clermont-Ferrand, France.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, OCTOBER 31, 1906]
 13,923 (1905). Sole and heel protectors. [Preferably of aluminum, the central portions being stamped out to leave a thin rim provided with springs on one side; the plates are then enveloped with rubber which spews into the central opening.] J. C. McIntosh, Paisley, Scotland.
 * 14,043 (1905). Device for stopping punctures in tires. A. T. Vigneron, Providence, Rhode Island.
 14,066 (1905). Life saving jacket. J. Aistrop, Adelaide, South Australia.
 14,286 (1905). Elastic bandage. J. W. Teufel, Stuttgart, Germany.

- * 14,291 (1905). Catamenial appliance. H. E. Hudson, Cleveland, Ohio.
 14,353 (1905). Tire inflator. [The rubber or other connecting tube is covered with leather.] V. T. Facer, Northampton.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 7, 1906.]
 14,435 (1905). Heel Protectors. P. Y. Harrison, Bradford, and R. H. Southall, Leeds.
 14,681 (1905). Caoutchouc process. [Treatment of solutions of raw Caoutchouc, or Caoutchouc waste, with alkali and high pressure steam for the production of aqueous Caoutchouc solutions resembling the original milk.] P. Alexander, Charlottenburg, Germany.
 14,757 (1905). Detachable tread band for pneumatic tires. J. H. W. Fitzgerald, London.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 14, 1906.]
 14,917 (1905). Catamenial appliance. F. W. Michael, Edinburgh.
 14,918 (1905). Elastic tire. [Method of securing and tightening resilient twin or multiple tires which may be continuous or in overlapping segments.] W. Baines, Preston, England.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 21, 1906.]
 15,480 (1905). Check valves for pumping sewage. [Made up of plies of hard woven cotton or hemp canvas, cemented together, hand coated with Gutta-percha or India-rubber composition.] W. J. Bosley, Southampton.
 15,499 (1905). Pneumatic sucker. [Rubber secured to rod for handle of appliance for picking up cards or other small articles.] A. Fagge, London.
 15,505 (1905). Springs for road vehicles. F. Walton, London.
 15,520 (1905). Driving belt. [Built of alternate strips of leather with beveled lower edges and narrower strips of rubber, the lower parts of which are thickened to correspond with the spaces and to form a continuous driving surface.] K. T. Rae, Broughton, and T. F. Edwards, London.
 15,538 (1905). Elastic tire. [Series of rubber blocks threaded on a continuous or segmental soft rubber core and secured to the wheel rims by means of radial security bolts.] J. S. Switzer, Kildare, Ireland.
 15,547 (1905). Fountain pen. D. Cameron, Edinburgh.
 15,548 (1905). Tire. [Consisting of rubber core and outer cover, in which the sleeve may be omitted, the core completely filling the cover.] G. E. Cain, Bolton, and H. Sidebottom, Old Trafford.
 15,632 (1905). Golf ball. C. L. Porter, London.
 15,660 (1905). Horseshoe. P. B. Cow, and F. J. Jelly, London.
 15,710 (1905). Vehicle wheel. [With elastic tires secured to the rims without compressing the base.] W. T. Smith, Bolton.
 15,715 (1905). Mosquito net over a bedstead. H. Martin and P. S. Rippingille, Aston.
 15,725 (1905). Bicycle seat. H. P. Schreiber, London.
 15,788 (1905). Vehicle wheel. G. Moore and E. W. Evans, Aston.
 15,816 (1905). Means for hermetically sealing bottles and jars. J. McBride, London.
 15,817 (1905). Head covering. [In caps for deadening the force of blows.] W. M. Keen and S. Polak, London.
 * 15,820 (1905). Sole and heel protector. P. W. Pratt, Boston.
 15,842 (1905). Tire [comprising rubber cover with bands pressed against aluminum to form an air tight chamber]. C. J. Pigeon, Paris, France.
 15,896 (1905). Rotary tooth brush. I. G. Warren, Croydon.
 15,985 (1905). Finger stalls [of rubber, to which are attached electrodes for electric massage]. C. Arens, London.
 15,997 (1905). Resilient wheel [in two parts, divided near the rim and corrugated to enclose rubber rollers which provide a spring drive]. A. S. F. Robinson, Burslem, Beccles.
 16,004 (1905). Vehicle wheel. R. K. Evans, London.

THE trade in Vladivostock, practically suspended during the Russo-Japanese war, has now been fully restored, according to a report by United States Consul Greene, who enumerates shoes, tires, and other rubber goods among American products which should find a ready sale there. One trouble, however, exists in the uncertainty of the status of the customs tariff.

BRUSHERS FOR CALENDER LINERS.

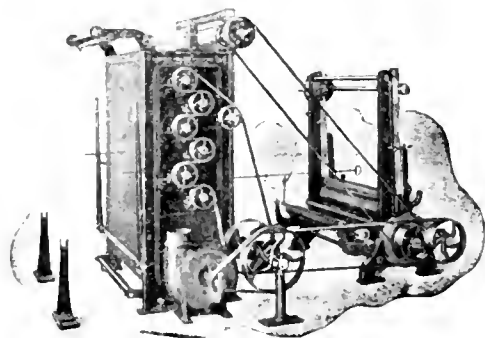
A MACHINE adapted to use in every rubber factory is the cloth brusher shown in the first of the illustrations herewith. Its use will be appreciated by every calender man who has occasion to clean the liner sheets of lint



COTTON BRUSHER AND CALENDER-ROLLING MACHINE.

tale, and the like. This cloth brushing machine is arranged with emery rolls and beaters in front, and with cord rolls and a stiff brush on top, so that each side of the cloth can be cleaned by going through once. Other arrangements of brushes can be made, if desired. The beaters have steel blades with sharp edges which run against the cloth and knock off bits of adhering material which are not easily removed in any other way. The machine is entirely covered on top and around the emery rolls and beaters (the covers being removed in order to give a view of the machine), and has an exhaust fan underneath to carry off the dust. The cut shows in connection with the brusher a calender rolling machine, with steam vapor cylinder.

The second cut illustrates the Heath patent vertical brusher, which form is preferred in some mills. After passing over tension and spreader bars in front, the cloth enters at the bottom of the machine and passes straight up to the top, being cleaned on both sides by the brushes.



HEATH VERTICAL BRUSHER.

At the bottom of the machine is a hopper connected by a pipe to an exhauster for taking off the dust and lint. This cut also shows the brushing machine running in connection with a calender rolling machine. [Curtis & Marble Machine Co., Worcester, Massachusetts.]

BRICKLAYERS' TAPE.

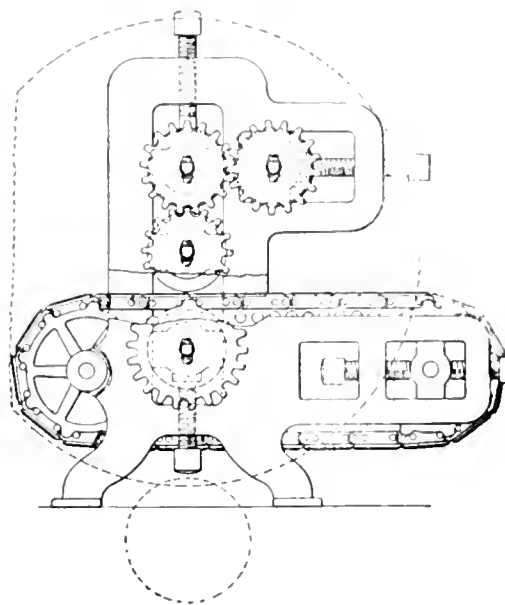
TO THE EDITOR OF THE INDIA RUBBER WORLD: In the November issue of your journal appeared an article in which I was much interested, viz.: "Automatic Tape Cutting Machine." But I found in enumerating the articles which it has been designed to cut, that of India rubber tape for bricklayers was omitted. This is quite an important factor in the output of the tape cutting machines, and is used by bricklayers for winding their fingers while at work. The tape so used is known as mud fingers. An item worthy of note in this connection is that 500 tons of bricklayers' tape will be used by masons in San Francisco during the rebuilding of that city.

F. A. SANFORD.

MACHINE FOR MOLDING FOOTWEAR PARTS.

THE illustration relates to a machine for forming the parts of rubber footwear. It involves the combination, with an endless table of (1) means for supporting the table, (2) means whereby the table is moved

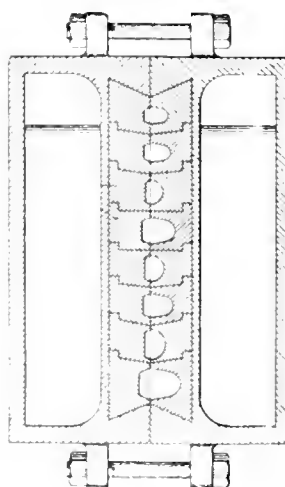
(3) a series of molds formed in the surface of the table, (4) a combined feed and presser roll mounted above and adjacent to the table in vertical line with the supporting means, (5) and means for feeding rubber stock in a semi fluid state to the space between the roll



above the table and the surface of the table, such roll being adapted to feed the stock under pressure from the said space into the mold. The inventor is Mr. Charles L. Higgins, of Montreal, to whom United States patent No. 835,522 has been granted.

MOLD FOR RUBBER TIRES.

A NEW invention in the shape of a mold for rubber tires is illustrated in the accompanying sectional drawing.



It is a vulcanizing mold having in combination body portions with recesses in their inner or adjacent faces, and a series of removable sections with matrices, the intermediate sections being constructed to interlock with adjacent sections, and the sections at the ends of the series with the walls of the recesses in the body portion. The inventor is Mr. Wilmer Dunbar, a widely known rubber superintendent and vice president of the Pennsylvania Rubber Co. to whom United States patent No. 831,608 has been granted.

According to the United States census of 1905 there were 937,409 family and pleasure carriages manufactured in that year, and 645,755 farm and business wagons. Not all these were rubber tired, but the proportion so equipped is alone enough to call for a very great amount of rubber.

OFFICIAL STATISTICS OF INDIA-RUBBER AND GUTTA-PERCHA.

For the United States Fiscal Year Ended June 30, 1906.

INDIA-RUBBER.

I.—Imports of Crude India-Rubber, by Countries.

From—	Pounds.	Value.
<i>Europe:</i>		
Belgium.....	4,721,081	\$1,372,171
Germany.....	1,230,963	1,090,571
France.....	3,469,084	2,587,452
Netherlands.....	186,286	167,573
Portugal.....	2,772,567	2,212,742
United Kingdom.....	8,918,288	7,072,195
Total.....	21,298,269	\$17,462,704
<i>North America:</i>		
British Honduras.....	27,214	\$ 19,985
Canada.....	129,510	59,703
Costa Rica.....	122,200	67,246
Guatemala.....	41,468	23,936
Honduras.....	93,128	55,709
Nicaragua.....	808,895	502,270
Panama.....	158,723	98,750
Salvador.....	31,036	16,542
Mexico.....	1,705,915	866,283
West Indies: British.....	1,539	682
Cuba.....	9,442	8,269
Total.....	3,129,053	\$1,720,275
<i>South America:</i>		
Brazil.....	29,497,148	\$23,827,586
Colombia.....	537,493	346,259
Ecuador.....	973,413	616,806
Guiana: British.....	684	511
Peru.....	107,985	79,351
Venezuela.....	35,126	33,389
Uruguay.....	162,011	121,231
Total.....	31,313,890	\$25,035,132
<i>Asia:</i>		
East Indies: British India.....	171,252	\$131,094
Straits.....	1,864,139	700,195
Other British.....	33,624	49,308
Dutch.....	26,966	22,028
Siam.....	1,211	583
Total.....	2,097,192	\$903,298
<i>Africa:</i>		
British Africa: West.....	5,329	\$2,655
Portuguese Africa.....	612	386
Total.....	5,941	\$3,041
GRAND TOTAL.....	57,844,345	\$45,114,450
Total, 1904-05.....	67,231,256	\$49,878,366
Total, 1903-04.....	59,015,551	40,444,250
Total, 1902-03.....	55,010,571	30,436,710
Total, 1901-02.....	50,413,481	24,899,230
Total, 1900-01.....	55,275,529	28,455,383
Total, 1899-00.....	49,377,138	31,376,867

II.—Imports of Manufactures of India-Rubber, by Countries.

[Indicates Increase; — indicates Decrease; compared with preceding year.]

From—	Value.
Austria-Hungary.....	\$ 47,413
Belgium.....	48,327
Denmark.....	71
France.....	720,275
Germany.....	960,686
Greece.....	2,080
Italy.....	11,195
Netherlands.....	1,912
Russia in Europe.....	22,449
Switzerland.....	2,919
United Kingdom.....	124,708
Canada.....	48,757
Mexico.....	99
West Indies: British.....	14
Cuba.....	422
Colombia.....	17
Hongkong.....	544
Japan.....	1,034
British Australasia.....	21
Total 1905-06.....	\$1,992,413
Total, 1904-05.....	\$1,389,064
Total, 1903-04.....	821,626
Total, 1902-03.....	685,972
Total, 1901-02.....	449,756
Total, 1900-01.....	478,663
Total, 1899-00.....	564,083

III.—Imports of Crude India-Rubber, by Customs Districts.

At—	Pounds.	Value.
Baltimore, Md.....	222,012	\$ 177,711
Bangor, Me.....	141,724	131,724
Boston, Mass.....	1,168,241	802,868
New York, N. Y.....	51,514,611	43,101,459
Mobile, Ala.....	276,288	159,643
New Orleans, La.....	280,930	181,636
Saluria, Tex.....	972,668	421,794
San Francisco, Cal.....	73,662	69,670
Niagara, N. Y.....	3,350	2,504
Vermont.....	125,818	56,742
Pittsburgh, Pa.....	14,676	16,214
Other ports.....	3,054	1,448
Total.....	57,844,345	\$45,114,450

IV.—Imports of Manufactures of India-Rubber, by Customs Districts.

At—	Value.
Baltimore, Md.....	\$ 33,082
Boston, Mass.....	159,602
Fall River, Mass.....	6,882
Newport News, Va.....	2,923
New York, N. Y.....	1,669,492
Philadelphia, Pa.....	15,544
Porto Rico.....	1,846
Providence, R.I.....	1,136
Galveston, Texas.....	1,793
New Orleans, La.....	1,973
San Francisco, Cal.....	10,336
Buffalo Creek, N. Y.....	35,787
Chicago, Ill.....	30,652
Cuyaboga, Ohio.....	1,643
Huron, Mich.....	7,952
Cincinnati, Ohio.....	2,782
St. Louis, Mo.....	2,139
Other ports.....	7,449
Total.....	\$1,992,413

V.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Customs Districts.

From—	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.
Bangor, Me.....	1,161	2,362	1,151
Bos. & Charles, Mass.....	12,706	489,495	432,866
New York.....	806,552	855,866	1,457,149
Passamaquoddy, Me.....	2,839	1,646	.....
Philadelphia, Pa.....	23,067	.....	1,16
Mobile, Ala.....	2,192	302	856
New Orleans, La.....	10,705	54	2,109
Arizona.....	26,485	1,549	6,049
Corpus Christi.....	410	.....	42,651
Paso del Norte.....	42,091	901	48,087
Saluria.....	31,736	193	19,623
Alaska.....	11,094	38,842	764
Puget Sound.....	22,975	9,610	25,792
San Diego, Cal.....	472	39	123
San Francisco, Cal.....	124,403	40,739	171,613
Buffalo Creek.....	.....	.....	194,117
Champlain.....	3,652	564	125,683
Detroit, Mich.....	21,531	230	31,343
Genesee.....	1,549	.....	1,281
Huron.....	3,635	1,309	22,138
Memphremagog.....	19,331	4,231	69,162
Minnesota.....	2,042	9	14,272
Niagara.....	22,469	2,10	170,810
N. and S. Dakota.....	11,391	1,281	13,896
Oswegatchie.....	7,147	.....	33,488
Vermont.....	7,537	53,019	78,832
Other ports.....	2,967	113	1,775
Total.....	\$1,221,159	\$ 505,082	\$2,966,144

GUTTA-PERCHA.

Imports of Manufactures of Gutta Percha, by Countries.

From	Value	From—	Value.
Belgium.....	\$ 18,339	Great Britain.....	\$119,089
France.....	3,525	Canada.....	4,579
Germany.....	58,777	Other lands.....	83
Italy.....	1,564		
Netherlands.....	11,213	Total.....	\$208,172

GUTTA-PERCHA.

Imports of Crude Gutta-Percha, by Countries.

From	Pounds.	Value.
France.....	7,604	\$ 8,036
Germany.....	311,114	106,228
Netherlands.....	10	12
United Kingdom.....	75,662	35,871
Canada.....	2,435	974
Honduras.....	11,508	5,447
Venezuela.....	15,037	6,380
West Indies—British.....	18,823	5,157
Colombia.....	265	75
Guiana—British.....	33,940	12,501
—Dutch.....	7,514	2,785
Straits Settlements.....	16,858	6,195
Total, 1905-06.....	600,770	\$188,161
Total, 1904-05.....	665,217	\$210,188
Total, 1903-04.....	424,617	174,953
Total, 1902-03.....	316,290	222,400
Total, 1901-02.....	525,767	252,329

GUTTA-JELUTONG (FONTIANAK).

United Kingdom.....	10,623	\$ 862
Straits Settlements.....	21,328,141	730,051
Dutch colonies.....	6,752	2,161
Total, 1905-06.....	21,350,116	\$73,074
Total, 1904-05.....	19,104,911	\$641,319

RUBBER SCRAP.

Quantity and Value of Imports, by Countries.

From—	Pounds.	Value.
Austria-Hungary.....	107,455	\$ 3,069
Belgium.....	31,700	2,041
Denmark.....	112,346	5,951
France.....	1,331,556	74,302
Germany.....	5,212,716	317,774
Italy.....	11,858	635
Netherlands.....	114,993	18,361
Norway.....	497,614	31,743
Roumania.....	5,684	403
Russia in Europe.....	7,891,040	486,942
Sweden.....	1,000,319	68,964
Switzerland.....	24,451	1,266
Turkey in Europe.....	613,116	37,307
United Kingdom.....	3,989,394	428,578
Bermuda.....	2,650	281
Canada.....	3,646,384	244,747
Newfoundland, and Labr.....	33,383	1,731
Costa Rica.....	363	22
Mexico.....	23,791	1,622
Miquelon, Langley, etc.....	478	19
West Indies: British.....	770	61
Cuba.....	60,565	4,270
Straits Settlements.....	38,220	2,175
Turkey in Asia.....	5,680	414
Total, 1905-06.....	24,756,486	\$1,721,678
Total, 1904-05.....	16,575,214	953,439
Total, 1903-04.....	20,270,970	1,164,785

RECLAIMED RUBBER.

Value of Exports, by Countries, for Four Years.

To—	Value, 1902-03.	Value, 1903-04.	Value, 1904-05.	Value, 1905-06.
Austria-Hungary.....	\$ 481	\$ 1,151	\$ 9,156	\$ 4,401
Belgium.....	1,084	26,398	59,816	32,724
France.....	13,932	55,739	30,564	56,030
Germany.....	19,427	20,225	18,744	26,541
Italy.....	1,368	6,932	24,705	21,322
Netherlands.....	9,049	.....	1,253	585
Denmark.....	.....	.....	.....	3,060
Russia.....	418	.....	.....	16,009
Spain.....	1,774	.....	10,394	172,266
Sweden-Norway.....	215,904	8,442	402,836	199,460
Great Britain.....	129,216	380,208	162,154	17,395
Canada.....	1,368	212,310	13,147	1,504
Japan.....	85	1,410	.....	.....
Australia.....	566	.....	.....	.....
Other lands.....	.....	20	185	.....
Total.....	\$404,586	\$712,835	\$727,847	\$851,350

EXPORTS OF AMERICAN RUBBER GOODS.

FISCAL YEAR ENDED JUNE 30, 1906.

EXPORTED TO—	Belt- Packing, and Hose.	Boots and Shoes. Pairs	Value.	Other Goods Value.	Total Value
EUROPE:					
Austria-Hungary	\$ 1,316	51,435	\$ 28,943	\$ 8,711	\$ 38,970
Azores, Madeira Islands,		603	548	155	703
Belgium	8,147	336,243	147,016	44,905	200,068
Denmark	2,679	80,324	34,665	7,193	44,437
France	12,823	9,090	5,224	60,995	78,141
Germany	32,757	617,729	335,536	195,635	503,928
Greece	28	70	19	147	147
Italy	5,700	77,366	40,916	49,781	95,797
Malta, Gozo, etc.				70	70
Netherlands	7,378	10,028	5,099	81,578	91,950
Norway	2,018	11,921	7,109	2,970	12,097
Portugal	10	282	215	125	350
Russia in Europe	2,052	25,000	8,040	4,171	14,263
Spain	538	80,344	46,740	15,192	62,419
Sweden	6,031	32,842	18,564	5,186	29,781
Switzerland	2,342	3,596	1,856	4,912	9,140
Turkey in Europe	508	116,539	54,888	71	64,467
United Kingdom	132,250	637,373	341,908	936,632	1,413,700
Total, Europe	\$215,877	3,100,405	\$1,080,224	\$1,417,317	\$2,713,418
NORTH AMERICA:					
Bermuda	\$ 556	324	\$ 216	\$ 2,038	\$ 2,810
British Honduras	475	4	6	357	481
Dominion of Canada	148,971	121,663	129,792	768,387	1,047,150
Newfoundland, Labrador	3,335	37,157	27,457	2,848	33,810
Costa Rica	6,165	312	166	3,345	9,967
Guatemala	1,855	78	46	3,388	8,289
Honduras	2,410	436	204	324	2,938
Nicaragua	1,478	1,563	839	1,882	7,199
Panama	16,659	1,364	888	16,375	33,922
Salvador	6,298	...	...	1,460	8,158
Mexico	240,760	6,236	4,587	187,827	433,174
Michoulin, Langley, etc.	12	2,666	3,004	...	3,016
West Indies—British	5,450	1,622	1,131	6,034	12,615
Cuba	113,847	4,105	3,931	100,339	218,087
Danish	1,397	52	48	303	1,748
Dutch	540	...	...	...	1,003
French	125	...	...	...	147
Haiti	521	269	116	777	1,414
Santo Domingo	4,118	783	525	3,683	8,626
Total, North America	\$561,752	178,638	\$172,976	\$1,069,886	\$1,834,014
SOUTH AMERICA:					
Argentina	\$34,915	12,587	\$ 7,204	\$ 15,690	\$ 57,628
Bolivia	167	...	...	350	497
Brazil	5,776	11,898	8,775	15,298	29,849
Chile	18,067	2,364	3,680	13,533	35,029
Colombia	3,357	1,205	716	7,801	11,873
Ecuador	4,411	1,894	968	1,369	6,748
Guiana—British	1,912	1,108	519	846	3,276
Dutch	...	...	...	561	561
Peru	8,144	1,298	5,016	11,765	22,925
Uruguay	1,024	7,316	3,583	4,417	9,024
Venezuela	3,501	221	130	6,398	10,029
Total, South America	\$81,214	39,891	\$28,699	\$77,626	\$187,439
ASIA:					
Chinese Empire	\$13,069	1,888	\$1,174	\$10,957	\$28,200
East Indies—British	8,033	3,278	1,146	5,655	15,034
Straits Settlements	1,243	...	...	2,784	4,027
Other British	272	...	...	181	453
Dutch	840	...	...	140	680
Hongkong	2,109	18,217	8,650	493	11,252
Japan	33,212	101,453	57,288	145,336	236,636
Korea	2,541	49	223	979	3,723
Russia, Asiatic	41	...	...	18	59
Siam	...	...	...	437	437
Turkey in Asia	...	19,835	9,898	...	9,898
All other Asia	...	...	...	19	19
Total, Asia	\$61,740	147,720	\$81,679	\$166,899	\$310,318
OCEANIA:					
British Australasia	\$111,095	211,129	\$128,917	\$115,895	\$365,907
All other British Oceania	...	61	36	20	56
French Oceania	720	617	461	625	1,806
German Oceania	275	...	...	47	322
Philippine Islands	35,514	2,209	3,482	44,617	83,193
Total, Oceania	\$147,454	214,016	\$132,896	\$161,234	\$314,584
AFRICA:					
British Africa—West	\$ 2,905	36	\$ 88	\$ 231	\$ 3,224
South	96,051	12,619	8,554	19,654	124,959
Canary Islands	...	...	...	22	22
French Africa	...	15	16	16	32
German Africa	380	280	215	20	615
Liberia	53,724	60	36	22,757	76,516
Portuguese Africa	62	...	...	470	532
Turkey in Africa—Egypt	\$153,122	13,000	\$8,708	\$43,182	\$205,012
Total, Africa	\$1,221,159	2,693,690	\$1,505,082	\$2,966,144	\$5,692,385
GRAND TOTAL	\$1,221,159	2,693,690	\$1,505,082	\$2,966,144	\$5,692,385
Grand Total, 1905	994,100	2,390,539	1,214,342	2,679,375	4,780,817
Grand Total, 1904	880,000	2,310,808	1,086,364	2,469,750	4,436,124
Grand Total, 1903	819,985	2,707,401	1,056,491	2,299,875	4,176,351
Grand Total, 1902	634,145	2,594,708	1,046,315	1,781,941	3,462,402
Grand Total, 1901	665,726	1,459,100	724,015	1,727,527	3,017,268

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of October, 1906, and for the first ten months of five calendar years.

MONTHS.	Belt- Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL
October, 1906	\$ 99,587	\$140,659	\$ 349,941	\$ 589,187
January-September	\$85,296	936,350	2,361,917	4,193,563
Total, 1906	\$99,587	\$1,077,009	\$2,711,858	\$4,888,454
Total, 1905	958,660	1,056,458	2,373,841	4,388,959
Total, 1904	724,919	988,025	1,976,519	3,689,463
Total, 1903	710,825	790,903	2,066,893	3,568,521
Total, 1902	596,272	865,711	1,659,205	3,121,188

RUBBER GOODS TRADE OF CANADA.

CANADIAN imports of India-rubber manufactures for the fiscal year ended June 30, 1906, are officially stated to have been in value as follows:

	United States.	Great Britain.	Other Countries.	Total Value.	Duties Collected.
Boots and shoes	\$179,473	\$ 263	\$ 195	\$179,931	\$35,784
Belt- and hose	10,418	19	...	10,437	10,093
Clothing and water-	...	...	...	...	...
proof cloth	16,046	31,156	168	59,370	13,782
Hose	51,900	980	109	52,989	17,801
Packing and mats	70,110	3,234	144	73,488	25,144
All other	322,367	61,043	31,418	414,828	100,879

Total	\$680,014	\$99,695	\$32,034	\$811,743	\$100,879
Total, 1904-05	634,422	164,996	26,071	825,489	213,607
Total, 1903-04	617,471	334,646	26,068	978,185	256,210
Total, 1902-03	573,421	446,811	25,579	1,045,811	253,873
Total, 1901-02	525,218	217,812	31,999	775,029	201,690
Total, 1900-01	434,599	154,941	21,738	611,272	193,012

The share of Germany in this trade advanced from \$18,825 to \$21,716, and that of Austria from \$3403 to \$6293.

There may also be noted the following imports, not classified by the customs as "rubber goods," but having a relation to the industry:

IMPORTS.	United States.	Great Britain.	Other Countries.	Total Values.	Duties Collected
Webbing, elastic and non-elastic	\$134,710	\$64,226	\$4,650	\$203,586	\$36,791
Stockinettes for rubber footwear	58,522	14,112	...	72,634	10,190
Duck for rubber belting and hose	118,169	168	...	118,337	free
Rubber thread	2,171	...	...	2,171	free

EXPORTS OF CANADIAN RUBBER GOODS.

To—	Value.	To—	Value.
Great Britain	\$61,540	Other Countries	\$ 2,714
Australia	45,872	Total	\$206,504
Newfoundland	20,045	Total, 1905	170,359
Italy	10,552	Total, 1904	128,067
United States	22,149	Total, 1903	142,891
Chile	2,120		
China	1,007		

IMPORTS OF RAW MATERIALS.

CLASSIFICATION.	Pounds.	Value.
Gutta-percha	825	\$ 971
India-rubber	2,499,756	2,394,828
Rubber recovered; rubber substitute;	...	...
hard rubber in sheets	3,069,158	357,380
Rubber powdered and rubber waste	393,272	2,171

Total, 1905-06	5,961,041	\$2,755,350
Total, 1904-05	5,474,911	2,723,273
Total, 1903-04	5,753,288	2,512,168
Total, 1902-03	5,404,124	1,820,054

The imports of the above raw materials were imported almost entirely through the United States.

THE EDITOR'S BOOK TABLE.

RED RUBBER. THE STORY OF THE RUBBER SLAVE TRADE FLOURISHING on the Congo in the Year of Grace 1906. By E. D. Morel. With an Introduction by Sir Harry H. Johnston, G. C. M. G., K. C. B. London: J. Fisher Unwin, 1906. [Boards. 12mo. Pp. xxi. 213. 2 maps. Price, 2s. 6d.]

THIS is a resume, up to date, of the studies of the Congo situation, political and economic, to which Mr. Morel has addressed himself so vigorously for half a dozen years or more. By his writings he has done more than any one else to focus the attention of English speaking peoples upon the present condition of the Congo Free State and suggestions for its amelioration. In this book is succinctly outlined the history of the State, the system under which the business of rubber gathering—its most important interest—is carried on, and that for the distribution of the profits. The main points which the author endeavors to prove are that the labor system is based upon slavery of the worst form, and that the "beneficiaries" are the king-sovereign, in his private capacity, and a few associates. The book is convincingly written, but it is, of course, only an *ex parte* statement. The author concludes with discussing "What Great Britain Can Do."

Sir Harry Johnston, who contributes an introduction, is noted as an authority on Africa, with a record as a successful colonial administrator on that continent. He believes the Congolese capable of improvement, but not under the existing regime, in which the chief resources of the State are exploited, as he asserts, for private profit. This he terms the inherently false principle in the Free State scheme. Sir Harry would not favor international control of the Congo, for the reason that there is as yet no "international conscience." The proper administration of any colony or dependency requires that its methods shall appeal singly to the conscience of one state. His suggestion is that Belgium take over the control of the Congo Free State, to be dealt with as in the case of the other European powers and their colonies. If the present regime continues, however, Sir Harry predicts a ferment of hatred in the minds of the Congo negroes against all white men that will spread until it has stamped out the beginnings of the new civilization which it has been attempted to implant in Africa.

THE CEYLON RUBBER EXHIBITION, SEPTEMBER 13-27, 1906. Descriptive Account of the Show. Full List of Exhibits and Awards. Notes on the Prize Exhibits, and Full Reports of all the Lectures and Demonstrations. Illustrated. Colombo: A. M. & I. Ferguson, 1906. [Boards. 8vo. Pp. xxxi+130. Price, \$1.]

This is a full and authentic record of the Ceylon rubber exhibition recently reported in this Journal. To indicate the care with which the book has been prepared it may be mentioned that each of the lecturers was given an opportunity to revise his remarks before printing. The lectures form an important contribution to the literature of India-rubber.

RUBBER IN THE 1905 CENSUS.

THE following details are in addition to a comprehensive article in THE INDIA RUBBER WORLD last month on the showing made by the rubber industry in the 1905 census of manufactures in the United States.

RHODE ISLAND.

For this state the only details given relate to the factories embraced in the classification "Rubber and Elastic Goods." No explanation is given of the failure to include details in connection with 1 rubber shoe factories. In the census of

1900 the value of rubber footwear products was reported at \$8,031,417. Nor do the figures which follow embrace returns for a clothes wringer factory in the state:

Rubber and Elastic Goods

Number of factories.....	9
Capital.....	\$1,794,533
Salaries paid.....	91,709
Average number of wage earners.....	991
Wages paid.....	\$416,642
Miscellaneous expenses.....	227,815
Cost of materials.....	1,639,301
Value of products.....	2,582,180

CONNECTICUT.

	Boots and Shoes—Rubber.	Rubber and Elastic goods.
Number of factories.....	5	21
Capital.....	\$9,532,942	\$7,041,765
Salaries paid.....	199,130	413,732
Average number of wage earners.....	4,796	3,143
Wages paid.....	\$2,430,026	\$1,283,359
Miscellaneous expenses.....	766,746	933,781
Cost of materials.....	7,307,686	5,342,040
Value of products.....	12,829,346	8,868,353

THREE OTHER STATES.

The figures herewith relate solely to "Rubber and elastic goods":

	ILLINOIS.	INDIANA	WISCONSIN.
Number of factories.....	11	6	3
Capital.....	\$1,562,251	\$1,351,021	\$774,584
Salaries paid.....	167,775	78,548	42,255
Average number wage earners.....	1,179	558	271
Wages paid.....	\$459,397	\$255,092	\$111,812
Miscellaneous expenses.....	386,770	42,950	128,521
Cost of materials.....	1,671,345	122,248	427,848
Value of products.....	2,847,589	223,810	720,036

INSULATED WIRE.

From a careful study of Bulletin 57 it would appear that the preceding figures do not include the products of that branch of the rubber industry devoted to the manufacture of insulated wires and cables. Included under another heading—"Electrical machinery, apparatus, and supplies"—are the statistics of production of insulated wires and cables. The total value in the 1905 census was \$34,519,699. The figure for 1900 was \$21,292,601. Of course this does not apply to rubber insulation alone.

WORLD'S PRODUCTION OF RUBBER.

THE total production of crude rubber for the year 1904 is estimated by Brenier and Clavierie, writing in *Cosmos*, at 57,300 tons, of which one-third is credited to America and one-fifth to Africa. This would leave 46.7 per cent. of the whole as the production of other continents, which figure is clearly too large. As for the distribution for consumption of the year's production, these figures are given:

United States.....	26,470
Germany.....	12,800
England.....	10,030
France.....	4,130
Austria-Hungary.....	1,320
Holland.....	1,218
Belgium.....	748
Italy.....	588
Total.....	57,304

This would leave nothing for Russia, in which country there is a very large consumption, or for Switzerland, Portugal, Japan, and Australia, in all of which countries there are rubber factories. It may be added, however, that the consumption figure given for the United States corresponds very nearly to the statistics commonly regarded as authentic in this country, including the consumption in Canada.

TIRES AND TIRE MAKERS.

THE Fisk Rubber Co. (Chicopee Falls, Massachusetts) have re-elected their directors and officers and added John C. Cole to the list of vice presidents.

=The recently organized Independent Tire and Rubber Co. (Akron, Ohio) are marketing a new tire designed especially for light touring cars.

=The steady growth in popular favor of the Goodrich tires is shown not alone by the fact that their tire factory is running night and day, or by the construction of an additional large six story building, but by the notable contracts with motor manufacturers which have been made recently. The 1907 Goodrich tires will form the regular equipment of White, Thomas, Winton, Thomas Detroit, Pierce "Great Arrow," Cleveland, Stoddard Dayton, Moon, Premier, and Stanley cars.

=Michelin Products Selling Co., Inc. (New York), issue a readable little monthly *Pneus Michelin*, devoted to tires and accessories.

=In order to simplify the marketing and avoid confusion in classification by tire makers using same, the name of the Hartford Universal rim has been changed to the Midgley Universal rim. This rim is widely used, as it takes either the Dunlop or clincher type of tires.

=The Ajax Rubber Co. have been formed, at Los Angeles, California, to market on the Pacific coast the tires of the Ajax-Grieb Rubber Co. (New York). J. C. Martin, formerly of Arizona, is president, and C. F. Startzman secretary and treasurer.

=The Denver Bicycle Cement Co. have been incorporated at Denver, Colorado, by Harry E. Gougar, George F. Fridwell, and J. E. Jones; capital \$5000.

=It is stated that 57 exhibition cars at the New York automobile show were equipped with the Diamond Rubber Co.'s tires. The tires on the remaining 139 cars were supplied by 17 other makers.

=According to the report of the supervisor of the Tire Association, recently dissolved, during the eleven months ended July 31, 1906, the percentage of replacements of tires sold by the Goodyear Tire and Rubber Co. was 1.41—that is, a little over one tire in a hundred—a record with which the company are greatly pleased.

=The Elastro Manufacturing Co. (Hartford, Connecticut), recently incorporated with \$50,000 capital, have completed their organization. Halsey B. Philbrick is president, Charles H. Cooley vice president, and Edward S. Young secretary. The company will make a rubber-like compound for filling tires.

=A Michelin tire which ran for 19,000 miles on a car owned by Mr. H. V. Price, of Chicago, has been presented by him to the Michelin agency in that city. Another tire on the same car ran 17,000 miles.

=Mr. E. S. Benson, who recently joined the staff of the G & J Tire Co. (Indianapolis, Indiana), was elected treasurer of that company at a recent meeting of the directors, to succeed C. L. Pepper, resigned.

IN EUROPE.

At the Berlin international motor exhibition, in November, of the 1768 wheels on all the vehicles shown, 1187 were fitted with "Continental" tires.

=The Dunlop company in England, have added to their line of tire production a solid tire designed especially for motor buses and other heavy vehicles.

=The Peter Union Tyre Co. (London) recently supplied a set of solid tires for an omnibus at Brighton, England, to replace a set with a record of 16,800 miles.

=The journal *Motor Traction* says that the average "life" of a solid rubber motor bus tire in London is 8000 to 9000 miles. The endless tire now leads in popularity, but it is being superseded by the block or stud type. The block tire has the advantage of easy repair when only one block is faulty.

=J. W. & T. Connolly Limited (London), have received a letter from a customer stating that a set of solid tires put on front wheels for him seven years ago, and since run for 80,000 miles, are still good.

=The Leyland and Birmingham Rubber Co., Limited, of England, have opened an office in Montreal, with a view to entering the Canadian tire market coincidently with the expiration of the "G & J", or clincher, patents.

=Michelin tires are offered for winter service with the reinforced "Samson" tread.

=The Hartridge "non skid" solid rubber tire is divided into sections, both circumferentially and lengthwise. Corrugated pieces of metal are interposed between the blocks of rubber. As a result, while on the road each driving wheel has never less than six entirely independent contacts with the road, and twelve contacts whenever a cross division comes down to the road surface. It is marketed by The Hartridge Tire Syndicate, Limited, London.

=David Moseley & Sons, Limited (Manchester, England) have adopted the Schrader tire valve as their standard equipment.

BELGIAN MOTOR TIRES FOR AMERICA.

The Jenatzy Rubber Co. filed articles of incorporation under the laws of New York, November 21, 1906, with \$150,000 capital. The incorporators are James Wolffsohn (general manager of the company), G. W. Newgass, and J. J. Franc. Offices have been opened at No. 36 West Forty-third street, New York. The object is the sale of the Jenatzy automobile tires, made in Brussels, Belgium, by the Manufacture Générale de Caoutchouc C. Jenatzy-Relaux, whose factories are long established and important. Mr. Camille Jenatzy, the grandson of the founder, and well known in racing circles, holds a block of stock in the American concern, and he and his brothers personally superintend the construction of the tires.

PATENTS EXPIRING IN CANADA.

The expiration of the first of the Canadian patents granted to Thomas B. Jeffery for a "clincher" pneumatic tire calls attention to the fact that the monopoly on this type of tire in the Dominion is near an end. The life of a patent in Canada, by the way, is only 15 years, instead of 17 as in the United States. The patent referred to corresponds to the American patent No. 454,115, dated June 16, 1891, and which expires at home in 1908. Two other patents granted to Jeffery were dated January 5 and 12, 1892, and have a few days more than two years to run in the United States. These patents are controlled in this country by the G & J Tire Co., but the Canadian rights were retained by Mr. Jeffery personally.

RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

SOME of the leading makers of insulated wires have announced a further advance of 15 per cent. in prices, over the 10 per cent. already in force upon their lists for 1906, making in all an advance of 25 per cent.

At the twelfth International Shoe and Leather Fair in London (November 5-10) rubber goods were exhibited at no less than thirty stands, though these were for the most part heels and soles. The British trade in these, however, is becoming very important, several large factories being devoted to their production exclusively. The British makers of rubber footwear made exhibits, and also The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, and the European representatives of the Hood Rubber Co. (Boston). Howison & Co. (London) included in their exhibit the "Penn" heels, which are made in the United States.

—A recent patent (No. 17,132a—1905) granted to John A. L. Nixon, of Dundee, relates to a pneumatic golf ball. The inflatable rubber ball which forms the center may be filled with either air or gas, under pressure.

—Connolly Brothers, Limited, insulated wire manufacturers, of Blackley, Manchester, have introduced an India-rubber solution which is described as being non-inflammable, thus rendering it capable of being stored or transported more cheaply and with less risk than has been true of rubber solutions in the past.

—The *India-Rubber Journal*, dealing with the subject of British rubber goods exports to China, expresses the belief that Japan is becoming an active competitor in that field. The *Journal* is of the opinion that both Japan and Germany are now selling more rubber goods in China than is England.

FRANCE.

THERE is being organized in Paris the Société d'Études Industrielles pour la Fabrication du Caoutchouc, concerning which information may be gained from Monsieur M. Harris, 47 de la rue de Flandre.

—The directors of the Société Industrielle des Téléphones, a French rubber manufacturing company, proposed a dividend of 15 francs per share for the year, against 18 francs for the year preceding.

—The Établissements Hutchinson are reported to be exceptionally busy, in all their lines of production, at both Langlée, (France) and Mannheim (Germany). They have received an important order for tires from one of the London motor bus companies. The company's shares are quoted higher than at any time in the past.

—At Daurdan a set of "Samson" leather treads were used, with Dunlop tires, on a Darracq car which made a speed of 180 kilometers (= 111.8 miles) an hour. The best previous record with these treads was 174 kilometers an hour.

—The Ninth Exposition Internationale de l'Automobile, du Cycle, et des Sports, at the Grand Palais, Paris, was held on December 7-25. The French tire trade, as usual, was strongly represented.

RUSSIA.

EXPORTS of manufactures of India-rubber from Russia, for the last three years for which official statements have been published, were as follows

	Weight	Value
In 1902.....	138,000 pounds	2,977,000 rubles (= \$1,533,155)
In 1903.....	140,000 pounds	3,064,000 rubles (= \$1,880,960)
In 1904.....	140,000 pounds	3,983,000 rubles (= \$2,051,265)

These figures relate principally to rubber footwear. The importation of rubber goods into Russia is very small. One item for 1904 was galoches, amounting to 699 pounds in weight, and 22,126 rubles (= \$11,395) in value.

GERMANY.

A SHOWING of the profits of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien, given last month in these pages, may be supplemented by the following statement of the disposition of the net profits for the business year 1905-06:

Net profit for this year.....	M 505,400.11
Dividend 5 per cent. on the entire capital.....	300,000.00
	M 205,400.11
Less 10 per cent. commission to the directors.....	20,540.01
	M 184,860.10
Add balance from profits of 1904-05.....	176,948.92
	361,809.02
Dividend 2½ per cent. on the entire capital.....	150,000.00
	M 211,809.02
Less Officers' Pension Funds.....	50,000.00
Balance to 1906-07.....	M 161,809.02

SEMI CENTENNIAL AT HARBURG

ON October 27 occurred the fiftieth anniversary of the founding of the rubber factory at Harburg a'd Elbe now forming part of the equipment of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien. In 1856 Louis and Albert Cohen established there the rubber shoe industry. It was on a small scale at first, but the business grew and other products were added. After various changes in firm style, the Harburg factory came into possession of Menier, the French chocolate manufacturer. Following the Franco-Prussian war in 1870, the changed conditions led to the retirement of Menier from the field, when a stock company was formed to merge the business with that of J. N. Reithoffer, of Vienna.

Of the founder of the Austrian branch of the business little has ever been printed. Johann Nepomuk Reithoffer was born in 1781 and in time set up as a tailor in Nikolsburg. After his *wanderjahre* in Germany and France he went home impressed with the need for some waterproof cloth. In 1824 he obtained the privilege of waterproofing woolen cloth. His process, discovered as early as Macintosh's, lay in soaking the goods in a solution of berries of the leimmistel, sunflower seed oil, and caustic soda. It is said really to have worked well, except that the cloth stuck to the chair whenever one sat down. Reithoffer went the next year to Vienna, where he started a rubber thread factory. In 1828 he went into partnership with August Purschter, who had a patent for rubber thread, cut from Pará "bottles" and wrapped with linen, silk, or wool. In 1850 he got a patent on a vulcanized rubber shoe, and in 1854 founded the factory at Wimpassing which later was brought under joint control with that at Harburg.

ITALY.

THE Cape Asbestos Co., Limited, of Turin, were awarded the grand diploma of honor and a gold medal at the Milan international exposition of 1906.

NEWS OF THE AMERICAN RUBBER TRADE.

THE ACME RUBBER MANUFACTURING CO.

IN view of a decision in the New Jersey courts in the litigation between the Eureka Fire Hose Co. and The Eureka Rubber Manufacturing Co. of Trenton, N. J., regarding the use of the word "Eureka" as a trade name, the latter company announce:

We have, therefore, decided to change our name, rather than manufacture hose under another name, and continue to manufacture our remaining lines under our present name. On and after December 1, 1906, the name of our company will be THE ACME RUBBER MANUFACTURING CO. The word "Acme" has been used as designating the highest grade of goods made by us in almost all our lines since we commenced business. Our friends and customers in the trade will, we trust, be enabled to more easily identify us under our new name for this reason.

The Eureka Rubber Manufacturing Co. of Trenton, N. J., have been in business since the summer of 1902, making mechanical goods, fire hose, and the like. The Eureka Fire Hose Co., as already reported in these pages, instituted legal proceedings to prevent the use of the word "Eureka" in connection with fire hose, and the above recorded change of name is the result of the decision of the court.

NEW RUBBER FACTORY AT LOCKPORT.

THE Niagara Rubber Co., incorporated in October to engage in manufacturing rubber goods at Lockport, New York (on the Erie canal and in the neighborhood of Niagara Falls), have acquired the plant at that place occupied formerly by the Holly Manufacturing Co., and are installing machinery. The company have purchased the plant and business of the Amazon Rubber Co., at Jamestown, N. Y., which have been removed to Lockport. The officers of the Niagara Rubber Co. are: James B. Ross, president; H. Gardner Jackson, vice president; George W. Quinlan, secretary; A. M. Cheney, treasurer; Charles H. Walters, general manager. The Amazon company was organized in the summer of 1904, and Messrs. Ross, Quinlan, and Walters have been directors from the beginning.

RUBBER SPONGES ARE NOT "SPONGES."

AN importer of rubber sponges at New York appealed from the action of the collector of customs in assessing them as "manufactures of rubber" instead of "sponges." The collector's decision was affirmed by the general board of appraisers and later by the United States circuit court for the southern district of New York. The importer continued to appeal, and on December 4 in the circuit court of appeals the decision of the lower court was affirmed.

NEW LINE OF POLISHING WHEELS.

THE Springfield Tire and Rubber Co. (Springfield, Ohio) are placing upon the market a new line of goods called "Springfield Abrasive" polishing wheels and blocks, made of a compound patented by Mr. R. L. Slager, secretary and manager of the company. A marked advantage of these wheels is that they are made of the same quality of material all the way through and can be used until worn down to the spindle. Whereas the old style polishing wheels having leather faces with the emery glued on, can be used for only a short time when it becomes necessary to reset the faces.

The new polishing wheels are meeting with great favor among large cutlery houses and factories, not only in America but abroad.

TRIBUTE TO THE LATE MR. HODGMAN.

THE late Mr. George F. Hodgman, of New York, whose recent death was so keenly felt in the rubber trade, was one of those who took part in the organization of the Rubber Manufacturers' Mutual Insurance Co., and for a number of years he was a director in the company. At a meeting of the board, held in Boston, the following tribute was adopted:

WHEREAS, God in his inscrutable wisdom and love has removed by death our friend George F. Hodgman, who for a long term has been a fellow member of this Board of Directors of the Rubber Manufacturers Mutual Insurance Co., of Boston; now

Resolved, That in the death of Mr. Hodgman, this Board has lost a highly esteemed and valued member, who for nearly twenty-one years has fulfilled his duties at the monthly meetings of this Board.

Resolved, That his integrity of character, his devotion to the objects of this Company's interests, his uniformly kind and affable manner has endeared him to its several members, and his memory will long be cherished by this Board.

Resolved, That we extend to his widow and family our deep and sincere sympathy.

Resolved, That these resolutions be spread upon the records of this Board, and a copy sent to his family.

Approved

GEORGE H. HOOD
C. C. CONVERSE,
A. W. CLAPP

NEW FACTORY AT ANDOVER.

THE Andover Rubber Co. has been incorporated under the laws of Massachusetts, with \$10,000 capital, to establish at Andover a factory for making rubber gloves and other specialties. Matthew Hanson, an experienced rubber man, is president of the company; D. S. Burns, vice president; and W. J. Burns, treasurer. The Messrs. Burns are engaged in the tailoring business at Andover. Land has been secured and plans drawn for the factory.

STOWE & WOODWARD CO.

THE firm of Stowe & Woodward, who have been operating for some time a factory at Campello, Mass., as producers of cloth for the trade, and making mold and press work, with rubber roll covering a specialty, have become incorporated under the Massachusetts laws as the Stowe & Woodward Co., and purpose conducting a general rubber manufacturing business. Griswold Stowe is president and Frederick R. Woodward treasurer of the new company.

TRADE NEWS NOTES.

Raw Products Co., No. 41 Park row, New York, are handling crude India-rubber, Gutta-percha, and Balata. Mr. Samuel Kubie is president of the company, and the business is in the hands of Mr. Francis H. Peaty, secretary and manager, assisted by Mr. James T. Johnstone, lately of the rubber trade in Liverpool.

More than 100 vacuum dryers (Passburg system) are now in use in rubber mills, which looks as if the day of air drying was past.

=At a meeting of the directors of the United States Rubber Co. on December 6, Mr. Homer E. Sawyer, general manager of the company, was elected a member of the board, and Mr. John J. Watson, Jr., the treasurer, was elected a member of the executive committee. The number of directors is now 20, and the number provided for in the company's by laws 21.

The American Rubber Manufacturing Co., whose plant on Spear street near Howard was destroyed, has erected a large factory across the bay at Emeryville, opposite San Francisco.

-The factory of the Standard Asphalt and Rubber Co. (Independence, Kansas) is reported to be in operation, treating petroleum for nearby wells, from which to make hydrocarbon products after first taking off the lighter oil.

=A Waterbury (Conn.) newspaper estimates that a thousand pairs of rubber footwear were sold in that town on a recent day when snow fell.

=A two story addition to the Lisbon street plant of the Cleveland Rubber Works of the Mechanical Rubber Co. has been contracted for.

The New Brunswick Rubber Co. plant, at New Brunswick, New Jersey, is now being used as a central laboratory, under the auspices of the Rubber Goods Manufacturing Co.

=The Eureka Fire Hose Co. (New York), in view of the verdict in their favor in the suit brought against another company having a somewhat similar title, announce to the trade that the use of the word "Eureka" as part of a business title in connection with the manufacture and sale of rubber lined cotton fire hose and related goods is illegal.

=Calvert B. Archer, superintendent of the Milford Rubber Co. (Milford, Mass.) for the past seven years, has resigned.

=The Boston Belting Co. have declared the regular quarterly dividend of 2 per cent. and an extra dividend of 2 per cent., payable on January 1 to holders of record on December 15.

=The Milford Rubber Cement Co. (Milford, N. H.) a new concern, have begun operations. George D. Morse, of Boston, is president, and P. H. Farley treasurer.

=The Woods Cushion Wheel and Tire Co. filed articles of incorporation under the New York laws on November 30, 1906, with \$10,000 capital. Incorporators: E. D. Woods, F. D. Powell, C. Ecker, E. D. Hotchkiss, and W. Welch, all of Syracuse, N. Y.

=S. B. Thing & Co. (Newton, Mass.) have replevined two lots of rubber footwear, valued at \$10,500, which formed part of the stock of B. W. Comstock & Co. (Providence, R. I.) who were adjudged bankrupt on November 9.

=Following the filing of a bill of equity by the Seamless Rubber Co. (New Haven, Conn.) against the Pittsburgh Drug Co. (Pittsburgh, Pa.), asking for the appointment of a receiver, C. F. Patterson has been appointed in that capacity. According to the statement filed by the plaintiff company, the drug concern has liabilities amounting to \$220,000 and assets of \$17,000.

=The Diamond Rubber Co. (Akron, Ohio) have representatives in many parts of the country, demonstrating their quick detachable tires at the local garages.

=The new factory of the Bowers Rubber Co. is in operation at Black Diamond, near San Francisco. Permanent offices and warerooms will soon be erected on their old site, in San Francisco. They have taken temporary quarters on the opposite side of the street--No. 57 Sacramento street.

=The Commonwealth Rubber Co. (Reading, Mass.), mentioned recently in these pages as having taken on the manufacture of a puncture proof motor tire, are also making other rubber goods for automobiles, besides rubber blankets and such like products. The company are capitalized at \$500,000 and operate the factory some time used by the Chauncy Rubber Co.

=The Republic Rubber Co. have filled a large order for valves for use in the waterworks pumping station at Youngstown, Ohio. The new valves are the invention of Wills Hamilton, superintendent of the waterworks, and an important feature is the economy involved. They are a combination brass and rubber affair, so made that when the rubber is worn on one side, instead of the valve being thrown away the rubber can be turned over and the valve thus made to last twice as long as the old ones.

=Loring M. Monk, until lately identified with the Globe Mills Rubber Co. (Lawrence, Mass.), has established the firm of L. M. Monk & Co., commission merchants in cotton goods, No. 116 Bedford street, Boston.

=The window of the new store of The Enterprise Rubber Co. (Boston), recently described in THE INDIA RUBBER WORLD, holds what is said to be the largest single pane of window glass in this country.

=The two factories of the Woonsocket Rubber Co., on account of the heavy orders in hand, were closed for only one day at Thanksgiving time.

=The regular quarterly dividend of $1\frac{3}{4}$ per cent. on the preferred shares of the Rubber Goods Manufacturing Co. was payable on December 15 to holders of record on December 8.

=Kern, Lauderbach & Co., a Philadelphia wholesale house, will carry a stock of wool boots from the factory of the Hastings Wool Boot Co. (Hastings, Michigan.)

=The Reed Electrical Cordage Co. Inc. (Syracuse, New York), are manufacturers of telephone cords and other similar goods, on an extensive scale, though the business has not long been established. Thomas S. Reed is president and Robert E. Benjamin treasurer.

=The stockholders of The Ohio Rubber Culture Co. (Canton, Ohio) have received the fourth quarterly report from their plantation "Capoacan." The report says: "The 600 acres this company planted to rubber in 1905 is exceptionally fine rubber, and the rapid growth it has made is almost marvelous. Thousands of these trees will measure 5 to 6 inches in diameter at the ground and stand as high as a man can reach on horseback. The 1906 planting is coming on nicely and looks fine for its age." The Minatitlan Contracting Co., of twelve years' experience as tropical planters, are developing this plantation under contract and bond.

=The republic of Colombia has established in New York an agency for disseminating information regarding the resources of that country, in charge of Señor Abrio Dias Guerra, at No. 15 Whitehall street. Specimens of Colombian products, including rubber, will be kept on exhibition.

=Mr. H. W. Marden, some time a member of the old firm of W. L. Sage & Co., rubber shoe jobbers of Boston, is now credit man in the Boston store of the Beacon Falls Rubber Shoe Co.

=Mr. Lester Leland, vice president of the United States Rubber Co., accompanied by Mrs. Leland and a party of friends, sailed early in the month across the Atlantic, and will spend the winter on the Nile.

=The compliments of the season (1907) in calendar form, first reached the office of THE INDIA RUBBER WORLD from A. Adamson (Akron, Ohio.) It is a rural scene, delicately tinted, and altogether a bit of office equipment sure to be appreciated by those whom it reaches.

=The Howe Rubber Co. (Newark, New Jersey), incorporated in August, 1905, with \$5000 capital, to make air balloons and gas balloons, have filed with the secretary of state at Trenton a certificate of increase of capital to \$100,000.

=The Stockton Rubber Co. (Stockton, New Jersey), after having been in operation for a year, have their reclaimed rubber product firmly established in the trade, and everything sold ahead to the full capacity of the plant. Mr. D. J. Price is superintendent and general manager. His son, Egbert Price, who recently completed a course at Drexel Institute, has been appointed assistant superintendent.

=The steamer *Polycarp* arrived at New York from Pará and Manáos on December 7, with a cargo of rubber consisting of 3881 cases, of the estimated value of \$1,810,500.

=L. J. Mutt Co. (Boston), who have not only made a specialty of double texture fabrics for automobile tops but have created the largest lines of such goods that the market has yet seen, moved on December 15 to new and larger quarters at No. 28 Summer street.

=The Utica Rubber Co., of Utica, N. Y., filed articles of incorporation under New York laws on December 6, 1906, with \$25,000 capital. The directors are Edward R. Rice, Buffalo, N. Y.; Charles W. Barnes, New York city; and E. B. Pearson, Newton, Massachusetts. Earl Wheaton, of Utica, will be manager of the store, which is to be a selling branch for the United States Rubber Co.

=An appreciation of the good work that Mr. A. W. Warren has done for the Hodgman Rubber Co. (New York) appears in his recent appointment as manager of sales for the company.

=The Boston Woven Hose and Rubber Co. have awarded contracts for a new building in addition to their plant on Hampshire street, Cambridge, to be used for their shipping department.

=The Ekert High Resistance Materials Co. have been incorporated, at Dayton, Ohio, for the exclusive manufacture of the high resistance materials, for use in connection with steam, patented by F. M. Ekert. The Dayton Rubber Manufacturing Co. now have no connection with the Ekert materials.

=Mr. P. W. Pratt, of the Foster Rubber Co. (Boston), attended the International Shoe and Leather Fair, in London.

=While not unmindful of the place that the Apsley Rubber Co. has made for itself in the rubber manufacturing world, the fact is most strikingly illustrated in the recent brief resume of its existence, that has been distributed among the trade. Reproductions of the illustrations appearing in a board of trade edition of the *Times* of Hudson, Massachusetts, where the factory is located, serve the desired end. The modest beginnings of 1885, the flourishing plant of 1895, and the magnificent showing of the industry in 1905 testify to the rare business acumen and ability of its head. Incidentally, the residence of Mr. Apsley is also shown, both in exterior and interior views, and its comfortable and elegant appointments indicate another side of the life of this man of business. With these rapid strides of success in retrospect there is much to anticipate for the next decade.

The holiday shutdown of the rubber shoe factories began on December 22, to last for 8 days.

At the factory of the National India Rubber Co. (Bristol, Rhode Island) the mill and calender rooms are being operated one night each week until 9 o'clock. The tennis shoe output has been very large of late.

Joseph Dixon Crucible Co. (Jersey City, New Jersey), whose large production of erasers for their lead pencil trade entitles them to be considered rubber manufacturers will erect extensive additional buildings this year.

Mr. William M. Ivins, well known to the rubber trade through his former connection with it, will receive from the city of New York a legal fee of \$12,500 in connection with a recent investigation of the department of street cleaning.

The Cascajal Plantation Co. (Chicago) publish a letter from the Beacon Falls Rubber Co., covering a remittance, at the rate of \$1.10 per pound for a consignment of cultivated rubber (*Castilloa*) from the "Cascajal" plantation, in the state of Vera Cruz, Mexico.

The Luzerne Rubber Co. (Trenton, New Jersey) of late have made additions to their building and taken on additional lines of production. They are now making a wide range of hard rubber goods.

The Para Recovery Co. are very materially increasing their plant for the production of Mexican-Yucatan rubber, necessitated by the very large orders already booked.

=The S. & L. Rubber Co. (Chester, Pa.) have registered a trade mark for their reclaimed rubber product, embracing the letters "S. & L." over the word RUBBER, the whole enclosed in a diamond shaped border. The lettering is in imitation of that done with stencil markers for shipping cases.

Mr. George B. Hodgman, of the Hodgman Rubber Co. (New York) has been elected to succeed his father, the late Mr. George F. Hodgman, as a director in the Rubber Manufacturers' Mutual Insurance Co., the headquarters of which are in Boston.

=The Aladdin Rubber Co. (Akron, Ohio), were the second to remember THE INDIA RUBBER WORLD office with a calendar for the coming year. It is a dainty affair, sure to be preserved.

The Canadian Consolidated Rubber Co., Limited, have declared their initial quarterly dividend of 1 1/4 per cent., payable January 2, to holders of record December 24.

=The Rickaby Rubber Manufacturing Co. (South Framingham, Mass.), recently organized by Mr. Frank B. Rickaby, formerly of the crude rubber trade, to make reclaimed rubber, shipped their first products during the past month.

=It is reported that a rubber manufacturing company is seeking a location at Lowell, Massachusetts.

Livesey & Co., Limited, of Liverpool, have opened an office at No. 5 Hanover street, New York, and will deal chiefly in African rubbers.

=On the evening of January 18 a banquet will be held at Sherry's, in New York, which will not be a banquet of the Mechanical Rubber Manufacturers' Association, because that association is no longer in existence. It will, however, be attended by former members of that association and their guests, and will be a purely social event. The arrangements for an exceedingly pleasant time have all been under the charge of Mr. William Hillman, late secretary of the late association.

Members of the New England Rubber Club should keep February 13 in mind, on which date a notable dinner is to be held at the Algonquin Club, Boston.

Mr. James M. Galloway, for some years manager of transportation for the United States Rubber Co., has severed his connection with that company and gone into the bond business in New York.

—Mr. C. B. Raymond, of The B. F. Goodrich Co., by the time this number is in the hands of the readers, will have returned from a brief vacation trip to Bermuda, West Indies.

—And still they come—(calendars and holiday souvenirs)—a beauty from the Arkay Rubber Co. (New York).

THE RUBBER INDUSTRY IN CANADA.

THE Canadian Consolidated Rubber Co., Limited, incorporated in July last, have perfected the details for the control of The Canadian Rubber Co. of Montreal, Limited; The



MR. S. H. C. MINER.

Granby Rubber Co., of Granby, Quebec; and the Maple Leaf Rubber Co., of Port Dalhousie, Ontario. The capital of the holding company is stated at \$5,000,000, and an issue of \$2,600,000 6 per cent. 40 year bonds is mentioned.

Mr. S. H. C. Miner, for years past president of the Granby Rubber Co., has been elected president of the Consolidated company. Major George W. Stephens, M.L.A., who has been identified

with the Canadian company for more than a year past, is vice president. Mr. D. Lorne McGibbon, also of the Canadian company's management, becomes second vice president and general manager. Shares of the Canadian Rubber Co. have been traded in lately in the unlisted department of the Montreal Stock Exchange. It is understood that the shares and bonds of the new company will be listed on the Stock Exchange.

Of the bonds referred to above, the issue to date amounts \$1,439,000. During the past month \$1,000,000 of this amount has been offered for public subscription at par, the same being redeemable at \$110 after October 1, 1911, at the option of the company. The sale was made on behalf of financial houses who underwrote that amount for certain shareholders, who sold to secure a return of certain monies advanced in the reorganization plan.

The condition of the rubber industry in Canada is the subject of the most favorable reports. Owing to the climate the Canadians are probably the largest users of rubber goods *per capita* in the world. Recently the volume of the industry has increased to an important extent by reason of the electrical and railway development that has been going on.

EKERT HIGH RESISTANCE MATERIALS.

MR. FRED M. EKERT, as the result of long study of materials used for steam packings, has developed a new line of products, which he terms high resistance materials. He has addressed himself particularly to the problem of making

rubber indestructible in steam, and combining the qualities of density, strength of body, and elasticity in a packing. The goods referred to are made by combining asbestos fiber, rubber, and high resisting pore filling substances, by processes patented by Mr. Ekert in America and abroad. There is now pending in New York the incorporation of a company with a large capitalization for the manufacture of Ekert's packings. The new materials have been tested extensively on railways and in important manufacturing establishments, with highly encouraging results. Among the strong testimonials Mr. Ekert has received is one from the road foreman of engines of the Pennsylvania railroad.

"ELECTROSE" FOR INSULATION

THE insulating material "Electrose," which has now been in use for four years for telephone fittings and other electrical apparatus, has given most satisfactory results, and is coming into a constantly increasing demand. The compound is the invention of Mr. Louis Steinberger, who is the president of the Electrose Manufacturing Co. (Brooklyn, New York), formed to make and market it. Electrose is hard, dense, and strong; it is an admirable insulating material; and its waterproof qualities fit it for outdoor uses, especially under severe climatic conditions. It has been tested with satisfactory results in meeting the most exhausting requirements in electric railway, light, and power installations.

A NEW GUAYULE AGENCY.

It will interest the rubber manufacturing trade to know that Poel & Arnold, the American rubber importers, have become sole representatives for the United States and Canada for the Compania Explotadora de Caucho Mexicana. This company is one of the two very large producers of Guayule rubber in Mexico, and is owned by leading German capitalists, among them Louis Hoff of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien and the Dresdener Bank of Germany, who purchased the Prampolini patents and own some thirty or forty other extraction patents. Heretofore most of their product has gone to Europe, but lately they have largely increased their capacity, and feel that they are now able to take care of American customers as well.

TO IMPROVE PARA HARBOR.

INCORPORATION papers for a company by the name of Port of Para were filed under the laws of Maine on September 15. The capital authorized is \$17,500,000. The object stated is to build, own, and operate wharves, docks, ships, and warehouses, at Pará, Brazil. The Board of directors includes Minor C. Keith, of New York, president of the United Fruit Co.; William Lanman Bull, a New York banker; Sir William C. Van Horne, K. C. M. G., chairman of the Canadian Pacific Railway Co.; and some French financiers. Recent foreign newspapers contain advertisements of an issue of bonds amounting to \$4,750,000, out of a total projected issue of \$6,300,000, to be secured by a special tax of 2 per cent. *ad valorem* to be imposed upon all imports at Pará.

EXTENSION OF A FACTORY IN INDIANA.

THE Indiana Rubber and Insulated Wire Co. (Jonesboro, Ind.) have been making some extensive additions to their factory buildings, both to accommodate more machinery which they are purchasing, and for storeroom. One is a three story building, with basement, 150 x 40 feet; another is one story, with cement floor, 250 x 75 feet.

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

THE break in the banks of the Delaware and Raritan canal, east of Trenton, on November 30, caused some trouble at both the Whitehead Brothers and Empire Rubber Manufacturing plants. The break was caused by muskrats burrowing in the banks. The water from the canal found its way to Assanpink creek, from which the Empire plant takes water, and also flooded Whitehead's pond. At the latter place a new water wheel was being installed and the excavation for the foundation had been about completed. This was flooded and partially washed away. Besides this damage the repair work was delayed about one week.

General C. Edward Murray is unusually busy these days because he has added to his other many duties that of being one of three men to procure a site for and erect Trenton's new city hall. Besides General Murray, the city hall commission is composed of Ferdinand W. Roebeling, Sr., of the John A. Roebeling's Sons Co., and former State Senator Jonathan H. Blackwell. General Murray is treasurer of the commission.

General Murray has been reelected a member of the board of trustees of McKinley Hospital for a term of three years, and has been made a member of the finance committee of the board.

Mr. William J. B. Stokes, one of the proprietors of the Trenton, Home, and Joseph Stokes rubber companies, will on Tuesday, January 1, be reelected treasurer of the city of Trenton, for the sixth consecutive term. He has filled this office since 1894. Mr. Stokes was unanimously re-nominated for the position at the Republican city caucus held in the Trenton House, December 6. The administration is strongly Republican so his election is assured. The caucus was followed by a banquet at which Treasurer Stokes was a guest.

The Whitehead Brothers Rubber Co. have ordered recently considerable new machinery, which it is expected will arrive soon. With the new addition to the buildings, the increased power, and more machinery, the Whitehead mills have been greatly improved and are among the best in the city.

The Acme Rubber Manufacturing Co. (formerly the Eureka Rubber Manufacturing Co.) are planning extensive improvements to their plant, which they will begin in the spring. The improvements will increase the capacity of the company's mills about one-third. According to the plans now under consideration, brick additions will be erected at each end of the present main building on East State street, to accommodate a general expansion of the plant, which is made necessary by the increasing business. The factory is unusually busy. About January 10 the company expect to put on a night shift and commence running 24 hours a day. This extra run does not usually begin until about March 1, and the earlier hustle this season is rendered necessary by the rush of orders.

The Hamilton Rubber Manufacturing Co. report business as rushing, with a splendid outlook for 1907. "In fact," said William L. Blodgett, secretary of the company, "we have more business than we can handle. In certain lines we have had to stop taking orders because we have reached our capacity." Mr. Blodgett said also that the Combination Rubber Manufacturing Co. at Bloomfield, now operated by

the Hamilton management, are rapidly getting down to smooth running order. Business is good there also.

Seated in commodious offices in the new \$5000 addition to the mill of the Luzerne Rubber Co., representatives of the company talked to THE INDIA RUBBER WORLD correspondent about the prospects of the concern, which though one of the youngsters in the Trenton trade, is already looming up as a lusty enterprise. The new building is of brick and two stories high. It is fully equipped and in running order. Besides this structure the company have also erected a one story building 10-40 feet, to the rear of the main factory building. The additions just about triple the size of the plant. New vulcanizers and other machinery of the latest pattern have been installed, giving the company a thoroughly up-to-date mechanical outfit. The company manufacture hard rubber goods exclusively, and cater largely to the electrical trade.

Industrial building in Trenton has been unusually brisk during 1906, and the rubber mills have shared in the general expansion. Among the additions to local rubber factories have been the following: New building at the Whitehead Brothers' plant costing several thousand dollars; new store house at the Hamilton company's factory; Crescent Belting and Packing Co., two new buildings, costing \$10,000; new building at the Luzerne plant.

The Whitehead Brothers' Rubber Co. are making arrangements to install a new water wheel at their plant, a short distance beyond the city limits. The plant is being kept exceedingly busy and the new wheel will be put in so that the power may not be impaired. The main portion of the Whitehead plant, one of the oldest mills in this section, formerly was operated entirely by water power. Now, however, it has a large steam power plant which is supplemented by the water wheel. A representative of the company says that business is good and the prospects for 1907 very bright.

The Home Rubber Co. report the trade outlook promising from their viewpoint. The boom in their "N. B. O." sheet packing still continues, the sales are growing every month.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE Akron rubber manufacturers are much gratified at the showing made by their tires at the New York automobile show during the first week of December. All of Akron's tire making concerns were represented, and their exhibits were conspicuous among the many to be seen. There were 239 cars shown, and 118 of these, or almost one-half, were equipped with Akron tires. When it is stated that there were no less than 19 makes of tires on the various machines, the prominence of the products of the local companies can be better realized.

The plant of the Lyon Rubber Co., of which O. G. Lyon is president, has been completely wiped out by fire. It is not known how the fire originated. Two thousand pounds of mill rubber was all that was saved from the ruins of the building. Mr. Lyons says that his loss will amount to \$10,000, and that he will rebuild in a different location. He carried no insurance. He secured a controlling interest in the company about a year ago, and since that time has devoted most of his attention to the manufacture of quick repair cement for bicycle and automobile tires.

The Pure Gum Specialty Co., after having been engaged for several years at Barberton in the manufacture of druggists' supplies, have filed a deed of assignment. The action was the result of a vote of the directors to bring about the liquidation of the company. It is said that financial conditions could not have been better, as the assets of the concern far exceeded the liabilities, but that the step was taken because the sentiment prevailed among the stockholders that the winding up of its affairs and the distributing of the capital was most advisable.

John Eastman has resigned his position as night foreman at the plant of the Alkali Rubber Co. to become assistant superintendent of the Northwestern Rubber Co.'s plant at Liverpool, England.

The new building of the Faultless Rubber Co. at Ashland are rapidly nearing completion, and it is believed that the removal from Akron to that city can be accomplished in the next three months. The concern's capacity will have been tripled when the Ashland plant is in full operation.

Lemon Greenwald, an employe of The B. F. Goodrich Co. has secured a patent on a puncture-proof automobile tire which promises to be a marked success. The tire is referred to as retaining all of the elasticity of the tires now in use, as well as being tougher than tires made heretofore. The officials of the Goodrich company have interested themselves in his work. Greenwald's tire was placed upon a heavy touring car owned by an Akron physician and put to many severe tests, one of which was the driving of the machine over a roadway of planks through which nails and spikes of various sizes projected. The car was sent over this obstruction first slowly, and then at full speed, but the tires came out of the test uninjured.

THE TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE manager of the San Francisco branch of the Pacific Coast Rubber Co., Mr. H. C. Norton, asserts that business of late has been very much better than at the same time last year, and his statement is corroborated by all of the rubber houses in this city. Usually in November and early December business is a little slack, but the unusual demand for rubber goods of all kinds in San Francisco, in addition to an exceptionally good class of business which has been coming in from all of the cities along the coast, have kept the rubber establishments working to their full capacity, and have kept them adding to their facilities as fast as possible. The rubber goods business for the winter promises to be a record breaker in spite of the big fire.

Mr. C. H. Minto, coast representative of the Hartford Rubber Works Co., states that they are doing more now than they ever did before the fire. This firm's establishment was on the corner of Polk street and Golden Gate avenue where it was destroyed. After the fire this company, together with Morgan & Wright and the G & J Tire Co., decided to secure a common location and they leased the lot and built the large building which they now occupy at Nos. 423-433 Golden Gate avenue. They were the first to secure a lease in that neighborhood, and following their lead practically all of the automobile houses have built and located in temporary buildings in two or three blocks surrounding. The three companies have a joint repair shop

which is probably the largest on the coast. The Hartford Rubber Works Co. have agencies in the Northwest and a branch in Los Angeles, and they are preparing to make an exhibit at the Los Angeles automobile show.

Business is on the rush in the temporary location of the Gorham Rubber Co., but they are cramped for space and are waiting anxiously until they can get into their new permanent quarters. The new building, five stories and basement, will be built of reinforced concrete and will be ready for occupancy by February.

Mr. Ed. C. Garratt, manager of the Seattle branch of the Gorham Rubber Co., while in San Francisco recently reported that the state of Washington is more prosperous than ever and that he is doing far more business in Seattle than he did last year. At the Seattle branch he employs 43 people and operates the only rubber factory outside of San Francisco on the whole coast.

Barton, Squires & Byrne expect to be able to occupy their new permanent building on Howard street in about 60 days. They report that they are doing all that their present capacity will admit of.

The factory of the new Phoenix Rubber Co. is nearly complete and will be running within a few weeks. The firm are looking for an exclusive line of fire hose reels and a line of fire extinguishers to make their stock complete.

The Sterling Rubber Co. are a new corporation, lately formed to carry on a rubber goods business in San Francisco, at No. 222 Market street. W. Perkins is president.

THE TEXTILE GOODS MARKET.

THE cotton duck market continues exceedingly strong, the mills finding it extremely difficult to meet demand from manufacturers in practically every branch of the rubber trade. Rubber manufacturers are as usual consuming in advance of their contracts and there is every prospect of an indefinite continuance of this condition. A prominent authority states: "A factor of supreme importance, the big demand for the actual cotton, has by no means lost its force. The advices from practically all parts of the South are of the same tenor. The demand, particularly for the better grades, is sharp and persistent, the premiums paid are high and even in such circumstances it is no easy matter to obtain the cotton so badly needed to meet the large engagements of the mills both at home and abroad. Here and there the lower grades may have been pressed for sale at somewhat lower prices, but the fact remains that Southern spot prices are far above the level of New York futures. This demand for the actual cotton is merely the natural and inevitable result of the enormous trade in cotton goods on both sides of the water. Many of the mills are sold ahead for three to six months, and some as far ahead as next September, while now and then one hears of a mill which has sold its entire output for the year 1907. Big receipts tend to favor at times the speculator for a decline, but the big consumptive demand and the enormous trade in goods, as well as the bullish interpretation put by some experienced judges on the ginners' report as indicating a yield not much over 12,500,000 bales, are facts which may in the end have a very decided influence, especially as the short interest is heavy."

Sea Island and Egyptian cotton have advanced 25 per cent during the past two months.

RUBBER SCRAP PRICES.

It is difficult at this writing to present definite quotation for old shoes—particularly domestic—on account of the great scarcity of supplies. The figure quoted below has been paid, and possibly more, while some reclaimers doubtless would pay considerably higher prices if stock was obtainable. This condition is due to the "open" weather of last winter, resulting in reduced sales of rubber footwear and consequent smaller collections of scrap last spring. We give New York quotations—prices paid by consumers for carload lots, in cents per pound.

Old Rubber Boots and Shoes—Domestic.....	11 1/2 @ 12 1/2
Do—Foreign.....	10 1/2 @ 11 1/2
Pneumatic Bicycle Tires.....	7 1/2 @ 7 3/4
Automobile Tires.....	10 1/2 @ 10 3/4
Solid Rubber Wagon and Carriage Tires.....	5 1/2 @ 5 3/4
White Trimmed Rubber.....	11 1/2 @ 12
Heavy Black Rubber.....	8 1/2 @ 9
Air Brake Hose.....	1 1/2 @
Fire and Large Hose.....	3 1/2 @ 4
Garden Hose.....	2 1/2 @ 2 3/4
Matting.....	1 1/2 @ 1 3/4

REVIEW OF THE CRUDE RUBBER MARKET.

THE close of the year finds rubber prices somewhat lower, all through the list, than at the end of November. This being the season for stocktaking in very many rubber factories, and also a time when the heaviest arrivals of the year are nearly due at the primary markets on the Amazon, a quiet market is naturally to be expected.

The year just closed has witnessed a busy condition of the rubber industry, and a large consumption. Supplies have been somewhat larger than in any preceding year, and the range of prices lower than during 1905, when they averaged higher than during any other twelvemonth in the history of the trade. Prices were more steady during 1906 than has been usual. For example, THE INDIA RUBBER WORLD has reported the prices of fine new Islands Pará at the publication dates during the year as follows:

January 1.....	124 @ 125	July 1.....	118 1/2 @ 119
February 1.....	122 1/2 @ 123	August 1.....	118 1/2 @ 119
March 1.....	122 1/2 @ 123	September 1.....	119 1/2 @ 120
April 1.....	124 1/2 @ 125	October 1.....	119 1/2 @ 120
May 1.....	122 1/2 @ 123	November 1.....	119 1/2 @ 120
June 1.....	120 1/2 @ 121	December 1.....	119 1/2 @ 120 1/2

Compared with this unusual absence of fluctuation may be given the range of prices for the same grade for five preceding years:

YEAR.	Opening	High	Low	Closing
1901.....	88	93	78	81
1902.....	81	87 1/2	67	87 1/2
1903.....	88	107	81 1/2	91 1/2
1904.....	90 1/2	128	90 1/2	117
1905.....	115	132	115	124

At the Antwerp inscription sale on December 14 the greater part of the 640 tons offered found buyers at a reported average advance of 40 centimes per kilogram—[3 1/2 cents per pound] over the prices realized for corresponding grades at the November sale.

As usual, the size of New York stocks of Pará sorts is variously stated. Three London houses issue stock sheets giving the New York holdings on December 1 at 100 tons, 150 tons, and 170 tons, respectively, all of which figures are larger than the statement given out in the local trade.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on December 26—this date:

His death is reported of Senhor Dr. José G. Thekla Camargo Abreu, baron of Marajó, one of the most distinguished citizens of Pará, Brazil. He was born in that city April 12, 1833, and spent several years in early life in Portugal, returning to Brazil to complete his education. He filled many public positions of trust and honor, being at various times a member of both branches of the state congress, mayor of Pará, and governor of the state. He headed the Pará state commission to the Chicago world's fair in 1893. The Baron de Marajó was an author of note. He was interested in whatever tended to promote progress in his country, including improvement of the rubber situation. A contribution from his pen on "The India Rubber Outlook in Amazonia" appeared in THE INDIA RUBBER WORLD, November 15, 1893 (page 33). The baron left Pará in good health on November 4 last, and died in Lisbon on November 25. He had resided in Lisbon much of his time for many years and was well known there.

His death will be a distinct loss to the literary and commercial interests of his country.

PARÁ	January 1, '06.	December 1, '06.	December 1, '07.
Islands, fine, new.....	124 @ 125	119 1/2 @ 119 3/4	118 1/2 @ 119
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	129 @ 130	123 1/2 @ 124	123 1/2 @ 124
Upriver, fine, old.....	none here	127 1/2 @ 128	127 1/2 @ 128
Islands, coarse, new.....	75 1/2 @ 76	71 1/2 @ 72	71 1/2 @ 72
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	96 @ 97	97 1/2 @ 98	97 1/2 @ 98
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	74 1/2 @ 75	74 1/2 @ 75	74 1/2 @ 75
Caucho (Peruvian) ball.....	91 1/2 @ 92	95 1/2 @ 96	95 1/2 @ 96
Ceylon (Plantation) fine sheet.....	136 1/2 @ 137	137 1/2 @ 138	137 1/2 @ 138
AFRICAN.			
Sierra Leone, 1st qual.....	106 @ 107	Esmeralda, sausage.....	92 1/2 @ 93
Massai, red.....	106 @ 107	Guayaquil, strip.....	75 1/2 @ 76
Benguella.....	78 @ 79	Nicaragua, scrap.....	91 1/2 @ 92
Cameroon ball.....	77 @ 78	Panama, slab.....	69 1/2 @ 70
Acra flake.....	22 @ 23	Mexican, scrap.....	92 1/2 @ 93
Lopori ball, prime.....	117 @ 118	Mexican, slab.....	71 1/2 @ 72
Lopori strip, prime.....	107 @ 108	Mangabeira, sheet.....	67 1/2 @ 68
Madagascar, pinky.....	90 @ 91	Guayule.....	44 1/2 @ 45
Ikelemba.....	117 1/2 @ 118	LAST INDIAN.	
Soudan niggers.....	93 @ 94	Assam.....	93 1/2 @ 94
		Borneo.....	39 @ 40

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	52 7/50	Upriver, fine.....	62 9/75
Islands, coarse.....	28 8/50	Upriver, coarse.....	48 8/75
Exchange, 15 1/2.			

Exchange, 15 1/2 d.

Last Manáos advices:

Upriver, fine.....	67 1/100	Upriver, coarse.....	48 2/100
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Exchange, 15 1/2 d.

NEW YORK RUBBER PRICES FOR NOVEMBER (NEW RUBBER).

	1906	1905	1904	1903
Upriver fine.....	\$1.22 1/2 @ \$1.24	\$1.21 1/2 @ \$1.24	\$1.16 1/2 @ \$1.31	\$1.16 1/2 @ \$1.31
Upriver coarse.....	.95 1/2 @ .97	.89 1/2 @ .91	.89 1/2 @ .95	.89 1/2 @ .95
Islands fine.....	1.18 1/2 @ 1.20	1.18 1/2 @ 1.21	1.12 1/2 @ 1.20	1.12 1/2 @ 1.20
Islands coarse.....	.71 1/2 @ .73	.68 1/2 @ .72	.62 1/2 @ .73	.62 1/2 @ .73
Camet.....	.76 1/2 @ .77	.66 1/2 @ .72	.65 1/2 @ .72	.65 1/2 @ .72

Statistics of Para Rubber (Excluding Caucho).

	Fine and Medium	Coarse, Total	Total	Total
Stocks, October 31.....tons	125	146 1/2	146 1/2	146 1/2
Arrivals, November.....	105 1/2	502 = 155 1/2	128 1/2	128 1/2
Aggregating.....	117 1/2	502 = 155 1/2	128 1/2	128 1/2
Deliveries, November.....	108 1/2	498 = 155 1/2	128 1/2	128 1/2
Stocks, November 30.....	94	4 = 155 1/2	128 1/2	128 1/2

	PARA.			ENGLAND.		
	1906.	1905.	1904.	1906.	1905.	1904.
Stocks, October 31, .. <i>tons</i>	140	155	105	500	310	411
Arrivals, November	3095	2725	2720	893	1270	994
Aggregating	3205	2880	2885	1393	1580	1405
Deliveries, November	2345	2485	2345	923	1075	923
Stocks, November 30, ..	860	395	540	380	505	480
World's visible supply, November 30, <i>tons</i>	2772	2334	2067			
Para receipts, July 1 to November 30, ..	10845	10610	9531			
Para Receipts of Cauchio, same dates,	1110	770	590			
Afloat from Para to United States, Nov. 30, ..	604	413	520			
Afloat from Para to Europe, November 30, ..	830	837	820			

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

	POUNDS.	Total, 1906,	POUNDS.
January 1 to Oct. 22, ..	2,271,610		305,098
Week ending Oct. 29, ..	6,043	Same dates, 1905 ..	121,000
Week ending Nov. 5, ..	10,845	Same dates, 1904 ..	42,041
Week ending Nov. 12, ..	12,877	Same dates, 1903 ..	38,415
Week ending Nov. 19, ..	4,223		

DESTINATION.

Great Britain	215,304	France	4,078
United States	69,092	Australia	3,581
Germany	10,772	Belgium	2,571

EXPORTS of plantation rubber from the Straits and the Malay States from January 1 to October 31 amounted to 279 tons, or about 625,000 pounds.

ANTWERP RUBBER STATISTICS FOR NOVEMBER.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Oct. 31, <i>kilos</i>	621,081	554,483	710,860	876,637	350,135
Arrivals in Nov.	373,379	621,385	330,711	301,595	235,231
Congo sorts	311,315	19,207	297,715	28,453	201,172
Other sorts	62,065	604,178	68,923	85,412	34,059
Aggregating	994,451	1,175,868	1,047,591	1,238,522	585,369
Sales in November	279,532	543,572	435,835	558,300	300,308
Stocks, Nov. 30,	714,919	635,296	611,720	670,142	185,091
Arrivals since Jan. 1 ..	5,135,602	5,230,553	5,182,012	5,088,325	4,004,749
Congo sorts	4,014,050	4,007,203	4,272,232	4,580,185	4,232,704
Other sorts	1,121,552	1,223,350	909,780	508,140	372,045
Sales since Jan. 1, ...	5,155,870	5,145,618	5,181,180	5,066,285	4,233,197

Balata from Venezuela.

EXPORTS of Balata from Ciudad Bolivar have been during the last four years, as follows:

In 1902,	<i>kilos</i>	810,752	In 1904,	<i>kilos</i>	908,922
In 1903,		1,004,578	In 1905,		1,225,007

The figure for 1905 was the largest ever recorded, and it would appear that the Balata business has fully recovered from the effects of the recent political troubles in Venezuela.

Havre.

At the inscription sale of December 18 about 135 tons of rubber were offered, from the French Congo, Madagascar, and Tonkin, with smaller lots from Java and Ceylon. The brokers' estimations on some of the lots were: Upper Congo Ombanghi, 11.75 francs per kilo; Upper Congo Batouri, 11.10 francs; Congo M'Poko, 13.25 francs; Congo Ekela-Sangha, 10.60 francs; Madagascar Majunga, 8.75 francs; Tonkin black, 8.35 francs; Tonkin red, 7 francs.

This was the fourth monthly inscription sale at Havre. The importance of the offerings from Madagascar is indicated as follows: September 21—21 out of 63 tons; October 25—14 in 35 tons; November 23—4 of 161 tons; December 15—22 of 135 tons.

Liverpool.

WILLIAM WRIGHT & Co. report [December 1]:

Fine Para.—The market has been active with few fluctuations.

During the early part of the month prices declined slightly, but have since recovered, and at the close *Upriver* is about the same as last month, while *Island* is fully *1d.* per pound cheaper. There has been a good demand for old hard from America, and considerable quantities have been shipped there. In *Para* and *Manaos* prices much above the parity of those ruling here continue to be paid, partly, perhaps due to the low state of the rivers which retarded supplies. Latest reports, however, state that the rivers are rising rapidly, the probabilities being that December receipts will be large.

EDMUND SCHLATER & Co. report [November 30]:

With the larger receipts in November and the estimated further increase during December, the tendency has become very quiet, and it remains to be seen whether the buying at *Manaos* and *Para* will be sufficiently powerful to absorb the larger supplies without a concession on the part of the sellers. Considering the increase in deliveries to the trade, the increase of supplies is not at present sufficiently heavy to make a serious decline probable.

WORLD'S VISIBLE SUPPLY OF PARA, NOVEMBER 30.

	1905.	1905.	1904.	1903.	1902.
Tons,	3213	2738	2224	2000	3167
Prices, hard line 5 2		5 3	5 5 1/2	4/-	3 4 1/2

LIVERPOOL STOCKS OF AFRICAN RUBBER, NOVEMBER 30.

1906	328	1903	198	1900	802
1905	307	1902	473	1899	533
1904	443	1901	648	1898	460

London.

PLANTATION RUBBER AT AUCTION.

NOVEMBER 23.—To-day's offerings totalled 26 1/2 tons, Ceylon contributing 6 1/2 tons and the Straits the remainder. About three-fourths of the whole found purchasers. There was less animation in the buying than at the last sale, and prices were a little easier. The highest quotation was for block rubber from Lanadron estate; 30 cases (about 1 1/2 tons) brought 5s. 9 1/4d. [= \$1.40 3/8] per pound. This works out at \$31.44.40 per long ton. The highest price one year ago for plantation sorts was 6s. 0 3/4d. [= \$1.47 1/2]; *Fine Para* to-day, 5s. 2d.; last year, 5s. 2 1/4d.

DECEMBER 7.—All good plantation rubber was in good demand to-day. The highest price paid for biscuits was 5s. 8 1/2d. [= \$1.38 3/8]; for crepe, 5s. 7 3/4d. [= \$1.37 1/2]; for sheet, 5s. 5 3/4d. [= \$1.32 1/4]. The average price realized on all sales of plantation rubber to-day was the same as a fortnight ago.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds]

November 28. —By the steamer *Grangense* from *Manaos* and *Para*:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co.	219,100	61,000	118,600	2,400=	431,100
Poel & Arnold,	95,400	11,400	154,200	22,200=	283,200
N. Y. Commercial Co., ..	96,300	19,800	42,200	1,500=	159,800
A. T. Morse & Co.,	96,400	2,100	28,000	.....=	126,500
C. P. dos Santos,	65,800	13,100	26,100	2,800=	107,800
Edmund Reeks & Co., ..	20,700	11,200	17,900	21,200=	80,000
Neale & Co.,	7,800	1,700	26,200	100=	35,800
Hagemeyer & Brunn, ..	13,400	.....	3,400	.....=	16,800
Lawrence Johnson & Co.	12,000	.....	4,700	.....=	17,600
William E. Peck & Co.	4,700	.....	.....	.....=	4,700

Total,

December 6. —By the steamer *Polycarp*, from *Manaos* and *Para*:

General Rubber Co., ..	221,500	66,600	86,700	1,200=	376,000
Poel & Arnold,	118,300	28,100	143,900	900=	291,200
A. T. Morse & Co.,	162,200	30,700	45,700	.....=	238,600
N. Y. Commercial Co., ..	111,400	37,400	28,200	900=	207,900
Edmund Reeks & Co., ..	24,000	6,900	17,500	6,700=	55,100
Neale & Co.,	17,400	2,800	24,500	.....=	44,700
C. P. dos Santos,	21,500	1,800	11,900	.....=	35,200
Hagemeyer & Brunn, ..	18,800	.....	6,200	.....=	25,000

Total,

FOUND.

HAMBURG.

By the *Montrose*=Hamburg:

A. T. Morse & Co.	5,500
George A. Alden & Co.	5,000
Robinson & Stiles	5,000

By the *Montrose*=Liverpool:

General Rubber Co.	15,000
George A. Alden & Co.	25,000
A. T. Morse & Co.	15,000
Henry A. Gould & Co.	7,000
Raw Products Co.	5,000
Little Brothers	5,000

By the *Montrose*=Liverpool:

General Rubber Co.	25,000
Pool & Arnold	5,000

By the *Montrose*=Hamburg:

A. T. Morse & Co.	15,000
W. L. Gough & Co.	11,000

By the *Montrose*=Bremen:

General Rubber Co.	50,000
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By the *Montrose*=London:

Pool & Arnold	6,500
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By the *Montrose*=Havre:

General Rubber Co.	7,000
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By the *Montrose*=Hamburg:

A. T. Morse & Co.	22,500
Rubber Trading Co.	1,500
Pool & Arnold	7,000

By the *Montrose*=Liverpool:

George A. Alden & Co.	11,000
Livesey & Co.	6,500

By the *Montrose*=Antwerp:

George A. Alden & Co.	9,000
Robinson & Stiles	11,500
A. T. Morse & Co.	2,000

By the *Montrose*=Liverpool:

A. T. Morse & Co.	11,500
George A. Alden & Co.	5,500
Robinson & Stiles	9,500

By the *Montrose*=Havre:

Pool & Arnold	75,000
George A. Alden & Co.	50,000
A. T. Morse & Co.	22,500

By the *Montrose*=Liverpool:

Pool & Arnold	22,500
George A. Alden & Co.	2,000
A. W. Brunn & Co.	22,500
General Rubber Co.	11,500
Rubber Trading Co.	5,000

EAST INDIAN.

By the *Montrose*=Columbo:

A. T. Morse & Co.	15,000
-------------------	--------

By the *Montrose*=Singapore:

Heabler & Co.	15,000
W. L. Gough & Co.	15,000
A. W. Brunn & Co.	15,000

By the *Montrose*=London:

General Rubber Co.	35,000
Robinson & Stiles	5,000
George A. Alden & Co.	4,000

By the *Montrose*=Singapore:

George A. Alden & Co.	35,000
W. L. Gough & Co.	11,000

By the *Montrose*=London:

Robinson & Stiles	8,000
-------------------	-------

By the *Montrose*=Singapore:

A. W. Brunn & Co.	11,000
W. L. Gough & Co.	22,500

By the *Montrose*=Columbo:

A. T. Morse & Co.	15,000
-------------------	--------

By the *Montrose*=London:

General Rubber Co.	35,000
Robinson & Stiles	25,000
George A. Alden & Co.	11,500

By the *Montrose*=Singapore:

Heabler & Co.	55,000
W. L. Gough & Co.	11,000
George A. Alden & Co.	15,000
Pool & Arnold	11,000
A. W. Brunn & Co.	10,000

By the *Montrose*=Singapore:

George A. Alden & Co.	125,000
W. L. Gough & Co.	100,000
L. Littlejohn & Co.	110,000
Heabler & Co.	250,000
W. R. Russell & Co.	110,000
H. Rauli & Co.	110,000
J. W. Phyle & Co.	55,000
Joseph Cantor	11,000

By the *Montrose*=Singapore:

Heabler & Co.	125,000
L. Littlejohn & Co.	125,000
H. Rauli & Co.	155,000
W. L. Wadleigh & Co.	155,000
Joseph Cantor	15,000
Pool & Arnold	100,000
Interior Points	120,000

GUTTA-JELUTONG.

By the *Montrose*=Singapore:

George A. Alden & Co.	150,000
J. W. Phyle & Co.	225,000
L. Littlejohn & Co.	125,000
Heabler & Co.	550,000
H. Rauli & Co.	225,000
Interior Points	100,000

By the *Montrose*=Singapore:

George A. Alden & Co.	350,000
L. Littlejohn & Co.	110,000
Pool & Arnold	150,000
W. R. Russell & Co.	125,000
W. L. Gough & Co.	150,000
Joseph Cantor	30,000
Winter & Smillie	110,000

GUTTA-PERCHA AND BALATA.

By the *Montrose*=Singapore:

George A. Alden & Co.	22,500
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By the *Montrose*=Hamburg:

Robert Soltan Co.	8,000
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By the *Montrose*=Singapore:

George A. Alden & Co.	75,000
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BALATA.

By the *Montrose*=Hamburg:

W. L. Gough & Co.	11,500
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By the *Montrose*=Cuidad Bolivar:

Thebaud Brothers	11,500
Middleton & Co.	16,500

By the *Montrose*=Cuidad Bolivar:

Thebaud Brothers	22,500
Frame & Co.	3,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—NOVEMBER.

Imports:	Pounds.	Value.
India-rubber	6,315,115	\$5,084,517
Gutta-percha	1,354	1,740
Gutta-jelutong (Pontianak)	1,134,740	34,011
Total	7,451,209	\$5,120,274

Exports:	Pounds.	Value.
India-rubber	91,907	\$ 62,630
Reclaimed rubber	47,504	6,750
Rubber Scrap Imported	1,522,570	\$ 121,964
Rubber Scrap Exported	48,559	3,350

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS)

UNITED STATES.

MONTHS.	IMPORTS	EXPORTS	NET IMPORTS.
October, 1906	6,340,214	303,193	6,037,021
January-September	47,242,543	2,637,413	44,605,130
Ten months, 1906	53,582,757	2,940,606	50,642,151
Ten months, 1905	51,430,017	2,770,160	48,659,857
Ten months, 1904	49,951,326	2,884,557	47,066,769

GERMANY.

MONTHS.	IMPORTS	EXPORTS	NET IMPORTS.
October, 1906	3,030,060	1,362,650	1,667,410
January-September	27,010,320	8,731,800	18,278,520
Ten months, 1906	30,040,380	10,094,480	20,945,900
Ten months, 1905	37,020,540	14,277,340	22,743,200
Ten months, 1904	29,682,020	7,757,780	21,924,240

BELGIUM +

MONTHS.	IMPORTS	EXPORTS	NET IMPORTS
October, 1906	2,251,530	2,055,701	195,828
January-September	15,121,180	10,560,106	4,561,074
Ten months, 1906	17,372,710	12,054,507	5,318,203
Ten months, 1905	15,520,080	11,472,233	4,047,847
Ten months, 1904	15,055,005	12,065,002	2,989,993

GREAT BRITAIN.

MONTHS.	IMPORTS	EXPORTS	NET IMPORTS.
October, 1906	6,730,304	2,856,672	3,873,632
January-September	49,207,648	29,095,344	20,112,304
Ten months, 1906	55,937,952	32,552,016	23,385,936
Ten months, 1905	51,438,128	28,417,084	23,021,044
Ten months, 1904	45,500,416	26,009,910	19,490,506

FRANCE.*

MONTHS.	IMPORTS	EXPORTS	NET IMPORTS.
October, 1906	1,049,040	1,932,020	16,720
January-September	23,201,700	14,004,540	9,197,160
Ten months, 1906	25,211,340	15,037,460	10,173,880
Ten months, 1905	21,604,000	14,018,020	7,585,980
Ten months, 1904	13,195,520	7,610,040	5,585,480

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha Balata (old waste) rubber. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce

† Special Commerce.

‡ Net Exports.

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THE RUBBER PLANTING SITUATION

It is not so many years ago a suggestion to plant rubber for the purpose of adding to the world's supplies of this commodity would have seemed to most people hardly more practicable than the idea of increasing artificially the supply of atmospheric air. In the first place, it would have been considered unnecessary, in view of the great areas of forest rubber; and, secondly, the idea strangely prevailed that rubber plants were not adapted to cultivation. But of late the general opinion on this subject has undergone a complete change, and to-day there is no feature of the whole rubber interest to which more widespread attention is being paid than to rubber planting.

The progress made in this direction, and the definiteness of the results attained, were particularly notable during the past year. For example, three years ago the total exports of plantation rubber from Ceylon and the Federated Malay States, in occasional small lots, from a few young trees here and there, did not reach 50,000 pounds. During 1906 the exports from the same colonies exceeded 1,000,000 pounds—all rubber of a high grade, carefully prepared and shipped systematically, and realizing the highest prices in any market. Each year has brought more trees into bearing, and a larger rate of yield from the trees first tapped, and the success of the pioneer planters has led to the investment of an immense amount of capital in new plantations, in the belief that these ultimately will prove as productive as the trees now yielding rubber.

The newer plantations in Mexico and Central America have not yet reached the same stage of commercial production, but reports continually come to hand of the success of experimental tapping, while occasional lots of plantation rubber reach the market and bring high prices. But neither in Mexico nor in the importing countries are statistics yet available of the amounts, as distinguished from "native" rubber. In several South American countries rubber planting has been begun, with commercial results already in respect of Ceará, or "manigoba," in southern Brazil. Even in the Amazon valley interest in rubber culture has been stimulated, and some plantations formed.

In all the colonies in tropical Africa rubber is being planted, under the encouragement of the governing powers. In the Congo Free State, particularly, millions of rubber plants have been set out to comply with legal requirements, in addition to which the larger trading companies are planting rubber as a desirable means of employing part of their capital. What is being done in Africa is due to a general recognition of the fact that the native rubber species are rapidly being destroyed, and that unless plantations are formed ultimate exhaustion is certain. The Congo Free State output reached its highest point in 1901, since which time it has declined constantly. The total African

production continues large only through the exploitation year by year of new districts, to which there must in time be a limit.

It is not certain, of course, that rubber culture will prove uniformly so successful as in the Far East, but its practicability, on the whole, has been proved, and those engaged in it are to be congratulated upon the record of 1906.

THE COTTON PROSPECT.

TAKING the rubber industry as a whole, cotton is almost as indispensable to it as rubber itself. Everybody knows how important a part cotton fabrics play in the construction of an automobile tire, and similarly, cotton is required to give strength to most articles in the mechanical rubber goods branch. Indeed, when what is now called rubber belting was first produced in America, the manufacturers termed it "combination" belting, having reference to the practically equal importance of the two components, rubber and cotton. Even the everyday rubber shoe would not be possible but for the textile goods employed in its making.

Naturally, the price of cotton is a matter of great consequence to the rubber industry, the advances which have taken place in recent years having had hardly less effect than the enhanced cost of raw rubber in forcing up the selling prices of rubber goods. The consumers of rubber have had to accommodate themselves to a constantly rising price level for rubber until there is now no longer any recognized "normal" standard of cost, but all the while the hope has been entertained that cotton prices would some day sink again to what was formerly considered a reasonable figure. The realization of this hope, however, seems likely to be long deferred. The year just closed showed, as did 1905, that consumption treads so closely on the heels of production that relatively high prices for raw cotton were the logical and inevitable consequence. All estimates for the crop of 1907 point to a still larger production, but not necessarily to lower prices.

The fact is that the world is using more cotton. There are more people in the world every year; in many countries the people are coming to have greater buying power; and more tropical people are acquiring the habit of wearing clothes, and gradually of putting cotton to other uses. The increasing use of cotton is shown by the rapid growth of the cotton spinning and weaving industry in England, in America and in Asia. If the United States were to continue to be the main reliance for the supply of raw cotton, a real "shortage" would not be long in developing, but new cotton fields are being opened elsewhere, and they promise to become increasingly important.

The new mills completed or in course of erection in

Lancashire last year were to contain 8,000,000 spindles, of which 2,000,000 were to spin Egyptian cotton. England imported Brazilian cotton during the first eight months of 1905 to the value of £986,900; during the same period of 1906 the figures were £6,022,100. India already is an important cotton producing country, and China is becoming such. And now in every European colony in Africa within degrees of latitude suited to cotton growing, systematic efforts are being made to introduce the cultivation of this plant. It is true that England's earnest efforts, sixty years ago, to become independent of America in the matter of cotton did not at once make India a great cotton producer, but this does not necessarily prove anything to the prejudice of her present attempts to grow cotton in West Africa.

There is, in fact, much reason to expect that the American production of cotton, without declining in volume, will before long become a relatively smaller part of the world's total. In this prospect lies the only hope now discernible of materially lower prices for cotton. And, as to lower prices, the American planter should be able, with the help of science, to continue to make a profit, regardless of any competition elsewhere.

RAILWAYS IN RUBBER COUNTRIES.

AN article printed on another page describes a certain little-known station in Africa as the actual center of the Congo rubber trade. This is the point at which all produce of the Congo basin, on its way to the seaboard, is obstructed by the cataracts in the river, when it is transferred to the railway trains, which supplanted the old-time portage system, to the great benefit of commerce. There are many other rubber producing sections in which the need of a similar railway service has often been suggested, since so many rivers in those countries are blocked by troublesome obstructions. The trouble, however, is that the rubber traffic alone does not promise a sufficient return to justify the building of a rail line, say around the falls of the Madeira.

While the Congo railway has proved a profitable enterprise, it is not occupied in carrying rubber alone. Ivory, copal and other African products are conveyed over it, together with all imports into the whole Congo basin. Besides, the road serves as the sole means of transportation, for a certain distance, for the civil and military establishments of the Congo Free State. These conditions do not exist in Bolivia, for instance, nor has the government there any such monopoly of the country's resources as to enable it to turn the rubber crop to account in promoting whatever enterprises it may choose to favor.

But Bolivia fortunately has other resources than rubber, the development of which promises more to investors in transportation enterprises than does rubber. Without going into detail, it may be mentioned that Bolivia is one of the richest countries in the world

in minerals, the mining of which on a large scale has awaited the coming of better means of transportation. Whatever may be the motive for building railways in Bolivia, their operation can hardly fail to promote the gathering of rubber, for which reason there is reason to congratulate the trade over the fact that New York capitalists are now projecting rail lines meant to make both the Atlantic and Pacific coasts more accessible from Bolivia.

At the same time some very important railway extension is being promoted in the Congo country—primarily with a view to reaching mineral regions, but at the same time calculated to bring new rubber fields within closer reach. The British, who have stimulated the East African rubber trade by building the Uganda railway, will likely do something in the same line by railway building in Nigeria, just as the French have done in their West African colonies.

The point which we desire to make is that some of the greatest natural rubber fields are becoming much less remote, and under circumstances which promise rubber in greater plenty, if not at a lower cost. As everybody knows, the *crux* of the matter has been the limited supply of labor in many of the rubber states. Railway lines doubtless will prove the entering wedge of new conditions, under which life in those regions will be more tolerable for imported labor—for rubber gatherers as well as miners and traders. Much of the Amazon country to-day doubtless is as well adapted for the residence of Europeans as the Mississippi valley was 300 years ago, and we doubt very much that as many years will be required for making the South American States as populous as those on the Mississippi now are.

THE PAGES OF THE INDIA RUBBER WORLD this month present a somewhat changed appearance, which we trust will be appreciated by our readers no less than the typographical dress with which they have been familiar for so many years. The change has been made necessary by the changing conditions in the printing trade, which, like all other branches of modern industry, never stands still. It may be that, when this issue comes out in its completed form, the result will not be as handsome as we have hoped, but in any event we shall constantly strive to improve the paper in appearance as well as in its scope and the character of its contents. It may be added that the paper, in its new dress contains more reading matter than formerly.

MORE THAN ONE MILLION POUNDS OF RUBBER was shipped from the plantations in Ceylon and the Federated Malay States during 1906. This could not have realized less than \$1,000,000 (gold) for the planters. At the fortnightly auctions held in London the average obtained for all grades of plantation rubber sold ranged, at different dates, from 5 shillings [= \$1.215s.] to 5s. 11d. [= \$1.44] per pound, and the average for the whole year was considerably more than 5 shillings. Several planters have estimated their net profits on cultivated rubber at more than \$1 a pound, and no doubt correctly. It is not easy always to figure the cost of produce on a new plantation, but if the actual cost

were taken in the present case, it probably would not be extravagant to say that a handful of Far Eastern rubber planters have pocketed \$1,000,000 in profits on last year's crop, and this is only a beginning.

THE PROGRESSIVENESS OF OUR NEIGHBORS IN CANADA has never been questioned. They were not long behind the United States in developing a rubber industry, and a new article of manufacture in this branch is no sooner introduced south of the border line than it is taken up by the enterprising factories in the Dominion. The population up there is still much smaller than ours, but it is growing, and its tendencies are in many ways like those in Uncle Sam's domain. The latest indication of this is the disposition of the Canadian newspapers to indulge so freely in talk about a "rubber trust," just as our own newspapers have been doing. And, more than this, the work of consolidating the control of rubber factories over the border seems to be in progress.

THE TENDENCY OF TRADE TO FOLLOW THE FLAG is illustrated of late by the gravitation of most of the rubber produced in the French colonies to the markets of Havre and Bordeaux, just as Portuguese rubber has long gone to Lisbon. The Congo Free State production to Antwerp and that from the British colonies to London and Liverpool. We do not know that any complaint can justly be made of this tendency, and it is referred to here only to point out that the greater the diversification of the crude rubber market, between the ports mentioned and others, the more impracticable becomes the dream of "cornering" the world's supply of rubber.

IF WE ARE TO HAVE MANY MORE "OPEN" WINTERS the rubber trade may begin to doubt the wisdom of the adage about shoemakers sticking to their last. It may be decided to be better policy for every rubber manufacturer to adopt such a diversity of production as to render him independent of any possible weather conditions. For instance, when there is not enough snow to cause a lively demand for overshoes, it would be convenient to be prepared to make tires, the consumption of which is greater in a winter favorable to motoring all season.

MEXICO MAY YET BECOME one of the great centers of rubber production from wild trees of the *Castilloa* species, plantation rubber of the same variety, and the now much talked of "guayule" rubber. And a few days ago there was offered for sale at Antwerp a ton of the "palo amarillo" (yellow tree) product. Now that the rubber culture has become so firmly established there, what reason exists for doubting that ultimately every important rubber producing species may be domesticated in some part of Mexico—the *Heveas* and all the rest?

A SNOWLESS WINTER MAKES A FINE HARVEST TIME for the waste rubber trade, particularly as cast-off rubber footwear still constitutes the most important basis for reclaiming rubber. The less snow, the fewer rubber shoes worn and thrown away, and the scarcer and higher priced the waste rubber collected in the coming spring. Rubber shoe manufacturers and dealers who find such a winter as the present has been detrimental to their profits, might do well to take on as a side line the business of dealing in old rubber.

IT IS CHARACTERISTIC OF MODERN INDUSTRIAL METHODS that they permit nothing to go to waste. It was thought that a great advance had been made when means were discovered of reclaiming rubber from worn out and discarded goods, and rightly, since this invention has been worth untold millions to the world. But now further progress has been made, in the prevention of waste, through a discovery whereby even the textile fibres in old rubber goods are rendered commercially valuable.

THRENFALL CARR'S "WHEAT RUBBER."

TO THE EDITOR OF THE INDIA RUBBER WORLD: An article going the rounds of the press refers to what is called "wheat rubber," or "cereal rubber," the invention of William Threnfall Carr, of England. Will you kindly let the rubber trade know your opinion of this material?

By the way, the same article refers to use of rubber at the present time for street paving, and also to the fact of this "wheat rubber" coming to the manufacturer as liquid rubber. I would like to know if this means rubber in cement form.

It is asserted of cereal rubber that it will stand the test of vulcanization, the writer describing vulcanization as the process of hardening through the introduction of sulphur, and he goes on to state that but three substances—natural rubber, gutta-percha, and this new product (cereal rubber)—will stand this test.

It is, of course, something new to us that sulphur is incorporated with gutta-percha, and when incorporated induces vulcanization, and that this test of vulcanization proves that gutta-percha is rubber, being one of the three substances of the rubber family, the other two being natural rubber and the new cereal rubber.

This Mr. Carr is evidently not fully conversant with the rubber business, in any of its branches, such as the mechanical line, or boots and shoes and clothing. You probably may be able to explain what Mr. Carr is endeavoring to expound to the world at this late time, so long after Goodyear, who discovered the process of incorporating sulphur with caoutchouc, passed away. We are seeking information, and we do not get it from a reading of this article.

A MANUFACTURER.

Boston, Massachusetts, January 4, 1907.

[THE so called "cereal rubber" has been widely discussed, but most of the matter that has been printed about it is manifestly absurd. Before discussing it, we may inform our correspondent that rubber has been used for paving, though only to a limited extent. In front of St. Pancras station, in London, is a small section of rubber pavement that has been down many years, and quite recently the circle in front of the entrance of the Hotel Savoy has been paved with rubber. This pavement, however, is so expensive that it is not likely that Broadway or Fifth avenue will adopt it with the market for crude as it is.

Liquid rubber is known, but is used only for laboratory purposes. It is melted fine Pará rubber, in the form of a very thick varnish, and is used for sealing purposes.

With regard to wheat rubber, the discovery doesn't seem to be particularly new. The substance produced by treating wheat with ptyalin would be more like a glue than anything else, and undoubtedly would, after it went through the so called vulcanizing process, be like many of the cellulose products already in use. They may be prepared so as to be plastic and waterproof. They make an apparently good substitute for hard rubber, but are wholly without stretch or resilience. So far none of the rubber manufacturers have taken wheat rubber at all seriously, nor is there any likelihood that it will displace one pound of crude rubber except where crude rubber is not absolutely needed. In other words, it is the old story of another discovery of synthetic rubber. As a matter of absolute fact, synthetic rubber was made from isoprene many years ago, but only in very minute quantities and at a cost that discouraged further work along that line. So called synthetic rubber appears once in about three years, and some of the samples shown by the discoverers are far ahead of the best crude rubber; that is, in cleanliness. A curious fact about most of it is that the inventors are so anxious to produce real rubber that they imitate even the smell of the natural forest product, which, to say the least, is carrying the imitation a trifle too far.

The Carr invention, by the way, seems to have attracted an amount of attention from the press out of all proportion to its

importance. The company formed to exploit it, and of which so much has been written, appears to be only a sort of promoting syndicate, with a capital stated at £5000.—[THE EDITOR.]

THE ORIGINAL "WHEAT RUBBER."

AN Englishman writes to the Montreal *Star*: "Mr. William Threnfall Carr's so called invention is nothing new, except in that it is now to be carried on commercially. The process of converting wheat into rubber was known and practiced by English schoolboys to my knowledge more than fifty years ago; indeed, I have often made wheat rubber simply by chewing the wheat sufficiently long, and rubber which would stretch, and could be made into small bladders, and which were easily broken, producing a sharp report. For this result the rubber wheat was made."

SHRUB RUBBER FROM THE CONGO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have been much interested in reading in your columns that the Mexican guayule rubber is taking a good position in the American market, especially as there exists in profusion in the Congo Free State, as well as in the French Congo, a shrub which yields a very good rubber. The natives dislike the work of extracting this rubber, and there is need of some practical process for getting it out more economically and in better shape. I am sending you by mail a sample of this rubber.

S. A. T.

Leopoldville, December 15, 1906.

[THE sample of rubber enclosed was fairly good, although containing considerable bark. It also shows a slight stickiness on the surface. At the present New York market it shows a value of about 60 cents.—THE EDITOR.]

DEVELOPMENT OF BOLIVIA.

THE work of construction on the first section of an extensive system of railways projected for Bolivia, and in which a New York syndicate are interested, is reported to have been begun, and important contracts for rails have been placed with the United States Steel Corporation. The enterprise is being carried out in the name of the Bolivia Railways Co., the capital of which is being supplied by the National City Bank, with which are associated the banking house of Speyer & Co. and the firm of W. R. Grace & Co., all of New York. The plans now being carried out, it is reported, will require an outlay of \$35,000,000. The idea is to improve the outlet of Bolivia at least two points on the Pacific, and, by means of stretches of road around cataracts, to increase the value of the Bolivian waterways as means of transportation.

It will be remembered that when Brazil protested, a few years ago, against the cession of the Acre district to an Anglo-American syndicate, this territory was acquired by Brazil by the payment of \$10,000,000, which Bolivia has pledged for the construction of railways. Besides, Brazil undertook to construct a railway around the falls of the Madeira river, thus facilitating Bolivia's access to the Atlantic. Sir Martin Conway, who obtained from the Brazilian government the historic Acre concession, in a recent address before the Liverpool Chamber of Commerce, dwelt upon the great natural wealth of Bolivia, in india-rubber and metals, and added that the prosperity of the country would depend upon the railways now being developed.

Sir Martin remarked that if the rubber exports from Brazil did not increase very rapidly, the sole reason was the difficulty of obtaining labor. Experiments had been made with some success in the importing of Japanese coolies. His own opinion was that the best man to be brought to do this easy tropical work was the Hindoo coolie, who would be found to be eminently suited to the labor, although he had never been given a trial.

The Center of the Congo Rubber Trade.

"CITAS" ON STANLEY POOL.

STANLEY POOL is of much more importance as a rubber trade center than may be generally supposed; or, rather, certain stations on Stanley Pool, which is a lake formed by the broadening of the waters of the lower Congo, just above the cataracts which obstruct the navigation of that river. This locality has been the subject of much recent mention from the fact that it is named in connection with the boundary of the rubber concession granted last fall to the American Congo Co., covering an area lying along the Congo from the Pool up to the mouth of the Kasai river.

Practically all the rubber yielded by the Congo Free State is produced above the falls, and the same is true of a great part of the rubber from the French Congo, on the opposite side of the river. In the earlier years of the Congo rubber trade, the exports of this material could be brought down the river only to the uppermost of the cataracts referred to, where the rubber would be placed on the heads of native porters and thus con-

the steamers and other craft to the railway is in itself a large business. This is handled mainly by one company, having its location at a point on Stanley Pool known as Citas, near



REAR OF DIRECTOR'S HOUSE, CITAS.

Kinshasa, just before Leopoldville, the last station on the road, is reached. This is known as the Compagnie Industrielle et de Transports on Stanley Pool "Citas," the headquarters of which are in Brussels.

The Citas company represent on Stanley Pool most of the rubber trading companies, taking care of the transport of their produce—including also ivory and gum copal—by rail to Matadi, where it goes aboard steamers bound for Antwerp, Havre, and Bordeaux. There appear on this page several views of the transport company's place of business at Citas, illustrating an important feature of the progress of rubber from the Congo forests to the European markets. Once below the cataracts, practically all this rubber formerly proceeded direct to Antwerp, serving to build up there one of the world's most important rubber markets. Recently, however, the French companies have adopted the policy of shipping to Havre and Bordeaux, which are becoming every year relatively more important in the rubber trade, inspection sales having been organized there on lines similar to the sales long maintained at Antwerp.



VIEW OF CITAS, STANLEY POOL.

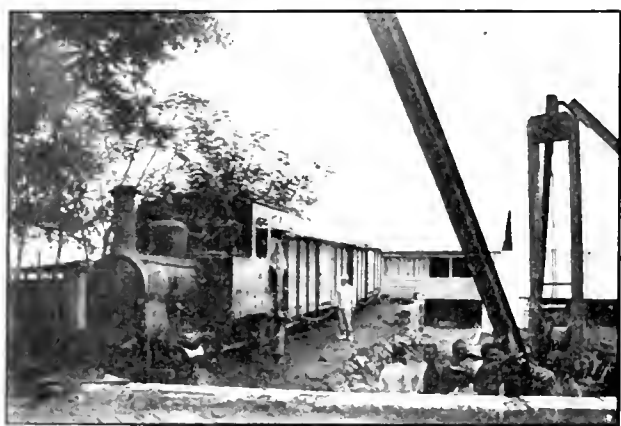
veyed around the falls, in the direction of the Atlantic, to Matadi, which was and is the head of navigation on the lower Congo. This was a tedious and costly means of transportation, and so long as no alternative existed, the commerce of the Congo region was necessarily of very slow growth.

In time the Congo railway was constructed, extending from Matadi, below the falls, to Leopoldville, above them—a distance of about 260 miles. This work cost a vast deal of money, owing to the difficult engineering problems encountered, but the expansion of commerce which followed its completion has made of the Congo railway a remarkably profitable enterprise. To-day all the rubber from the middle and upper Congo regions, as well as the greater part of the French Congo output, is carried for part of the way in its progress toward the seaboard by trains on this little heard of railway.

Naturally the upper terminus of the Congo railway has become the location of some important commercial enterprises, being also the lower terminus of boat transportation on the great stretches of the river that extend beyond the falls. For example, the transfer of millions of pounds of rubber every year from



CARGO OF RUBBER AND IVORY LANDED AT CITAS.



THE CONGO RAILWAY AT CITAS.

If any one point can be referred to as the actual center of the rubber trade in the vast Congoland—a region larger than Europe—it would appear to be some where on Stanley Pool, and if a more definite location is asked for, it is not too much to indicate as the place the "Citas" site illustrated herewith.

CHANGING CONDITIONS ON THE CONGO.

A NEW convention between the Société Abir and the Congo Free State, authorized by a decree of September 12, 1906, provides that the company shall abandon the privileges granted to it under the concession of 1892. The condition is that the company shall be entitled to receive, on the quay at Antwerp, at the uniform price of 450 francs per kilogram (=39.4 cents per pound), all rubber which may be produced on the area covered by the Abir concession, the price to be subject to revision every five years. This agreement to be in force until September 26, 1952, though the terms may be amended at the end of each period of twelve years, on conditions which have not been made public.

A similar new arrangement has been announced in regard to the Société Anversoise du Commerce au Congo. The new convention is to be effective until December 31, 1952.

No statement yet made public serves to explain the change of status of these two companies, which are among the most important holding concessions in the *domaine privé* in the Congo Free State. The *Belgique Financière*, after quoting THE INDIA RUBBER WORLD's statistics of the arrivals at Antwerp of rubber for the account of the various *cessionnaire* companies, remarks that the falling off on the part of several of them indicates a crisis in their affairs which may call for help from the state. It regards the new conventions with the Abir and Anversoise companies as the first step in this direction, though it fails to point out the beneficial feature of the new plan of operation. The amount of rubber credited to the two companies during three years was as follows (weight in kilograms):

	1903.	1904.	1905.
Société Abir.....	951,000	316,918	358,673
Société Anversoise.....	525,500	106,380	89,510

Both the companies named here have been enormously profitable. The Abir company (Anglo-Belgian India-Rubber and Exploration Co.) has 2000 capital shares, "without designation of value." Mr. E. D. Morel, who has made a study of the Belgian Congo companies, states that the original paid up capital was 232,000 francs (= \$44,776). In a single year the dividends amounted to 4,200,000 francs (= \$810,600), and the shares have been quoted as high as 25.250 francs, giving a total stock exchange value of \$9,746,500. In 1898 the company made a new deal with the Congo Free State, whereby the latter became possessed

of one-half of the capital shares, and the state has participated in the great earnings referred to. For some time past the profits of the Abir company have been declining, and a recent quotation for the shares was 5,500 francs, or only one-fifth of the highest price recorded. A year or two ago the company made an investment in a rubber plantation in the Malay peninsula.

The Anversoise company's capital is in 3400 shares, without mention of value, though generally spoken of as 500 franc shares. This would be equivalent to \$328,100. In a single year the net profits reached \$769,458.55. The earnings of this company have also declined notably, accompanied by lower quotations for their shares.

The rubber shipped by these two companies to Antwerp has been among the best received at that market, the Abir company's products including the Lopori grades, and those of the Anversoise the Mongalla rubber. Most of the rubber of these classes sells at the Antwerp auctions at 10 to 12 francs per kilogram, which is equivalent to 89½ cents to \$1 per pound. At a fixed price of 39.4 cents per pound to the trading companies it would seem that a very handsome profit is in sight.

RUBBER EXHIBITS AT MARSEILLES.

THE French colonial exposition held at Marseilles in September proved of much interest, and was successful from every point of view. It was particularly interesting on account of the rubber exhibits which occupied so prominent a place among the products of all of the colonies represented. Beautiful and extensive palaces were erected respectively for Indo China, Madagascar, and West Africa, and in all of these were shown specimens of rubber—forest and plantation—together with very many photographs illustrating methods of dealing with rubber in all its stages before reaching the factory. The rubber exhibit from Madagascar was notable on account of the number of different plants contributing to it, nearly all of which plants, by the way, are to be found only in that island.

By the way, Dr. Henri Jumelle, writing in *La Caoutchouc et la Gutta-Percha*, says that the black rubber of Madagascar is the product of species of *Landolphia* (creepers), "pink" Madagascar of three species of *Mascarenhasia* (trees), and the white rubber of southern Madagascar of the *Euphorbia Intisy* (tree).

During the exposition a colonial congress was held at Marseilles, for the discussion of the development of colonial resources. Lectures of interest and importance were delivered in relation to rubber exploitation in Africa and Indo-China, and also in Central America and Brazil. The lecturers were merchants, colonial administrators, explorers, and others having practical knowledge of the topics discussed.

The congress, considering the success of the schools instituted in West Africa by M. Yves Henry, for instruction in methods of collecting, coagulating, and preparing rubber [see THE INDIA RUBBER WORLD, August 1, 1906—page 346], voted to recommend similar measures in all the French colonies. A resolution was adopted calling upon the colonial administrations to give attention to the movement of crude rubber, with a view to repressing fraudulent practices. A further resolution recommended that the chambers of agriculture and commerce established in each colony be consulted in regard to establishing stations for the examination of rubber before its export, with a view to the issue of certificates of quality of the rubber.

RUBBER EXPORTS FROM FRENCH WEST AFRICA.

[From *La Caoutchouc et la Gutta-Percha*.]

COLONIES.	1901.	1902.	1903.	1904.	1905.
Senegal kilos.	361,428	549,873	817,354	1,001,815	1,017,311
French Guinea	1,038,808	1,154,803	1,487,805	1,405,671	1,415,820
Ivory Coast	704,825	912,388	1,166,812	1,536,045	1,170,879
Dahomey	5,890	1,575	1,964	4,130	4,002
Total kilos.	2,110,951	2,618,729	3,473,935	4,037,661	3,617,021

The Financier of a Great Rubber Company.

COLONEL GEORGE TOD PERKINS.

A STRONG personality which has served to give continuity to the business management of The B. F. Goodrich Co. (Akron, Ohio) since the beginning, in 1870, is Colonel George T. Perkins, who has survived all the others who were identified with its earlier years. Colonel Perkins, whose portrait appears on this page, is not a manufacturer, in the commonly accepted term, but a banker—a financier of extremely well-balanced judgment—who has gradually become a shareholder and director in a number of important manufacturing enterprises, but chiefly in the Goodrich rubber company. So intimate has been his connection with the growth and prosperity of this great concern that no history of the rubber industry would be complete that failed to include some record of his life.

George Tod Perkins was the son of Colonel Simon and Grace Ingersoll (Tod) Perkins, and was born on May 5, 1836, on "Perkins Hill," in Akron. The late Colonel Simon Perkins has been called the "Father of Akron," and his home, Perkins Manor, has long been one of the landmarks of the city. The mansion of the son, the subject of this sketch, now stands on the same elevation. George Perkins was educated in the public schools at Akron and at Marietta College, in Ohio.

The military title which he wears was won during the Civil War. He started for the fighting line at the first call for troops and was mustered out with Sherman's army at Washington at the close of the war, a little more than four years later. In April, 1861, he enlisted as private in the Nineteenth Regiment, Ohio Volunteer Infantry, for three months, and as second lieutenant of Company B participated in the West Virginia campaign. Later he reenlisted in the One Hundred and Fifth regiment, O. V. I., becoming its major. He commanded part of the regiment in the sanguinary battle of Perryville, Kentucky, on October 8, 1862, two of his captains being killed, and four other officers wounded; 47 men were killed and 212 wounded. He participated in the battles of Hoover's Gap, Chickamauga, Chattanooga (where he was wounded), Mission Ridge, Kenesaw Mountain, and the siege of Atlanta. He marched with General Sherman from "Atlanta to

the Sea." He was promoted to lieutenant colonel July 16, 1863, to colonel February 18, 1864, and was mustered out with the regiment June 3, 1865.

Colonel Perkins returned home to engage in business, becoming secretary to Taplin, Rice & Co., which position he held until 1870. In that year he became cashier of the Bank of Akron, and in 1876 its president. The bank becoming merged, in March, 1888, with the Second National Bank of Akron, Colonel Perkins became president of the larger institution, holding the office until March

1, 1904. At that time the Citizens' National Bank was consolidated with the Second National, and Colonel Perkins, not desiring to assume increased burdens, retired from office, though retaining a seat on the board. He was presented with a handsome testimonial by the officers and directors of the bank.

Colonel Perkins was connected with the Akron Rubber Works, later incorporated as The B. F. Goodrich Co., from the beginning, in 1870. He was treasurer and had charge of the finances until Dr. Goodrich died, in 1888, at which time he became president. The growth of the company has been steady and substantial, not having been excelled in this respect, perhaps, by any other rubber manufacturing concern in the world. The original factory was housed in a two-story building, 50 by 100 feet. The plant to-day embraces many large and substantial buildings, covering acres of ground. As late as 1862 the company was capitalized at not more than \$750,000, but it was doing a large business for this amount of capital. The capitalization was increased with the growth



COLONEL GEORGE T. PERKINS.

of the company's operations, until, in July, 1905, the figure was \$10,000,000. The products of the factory embrace nearly everything made of rubber, and they find a market on every continent. At the annual meeting of The B. F. Goodrich Co. on January 9 Colonel Perkins resigned the position of president on account of ill health, being succeeded by Mr. B. G. Work, for some years vice president and general manager.

In 1888 the Goodrich Hard Rubber Co. was incorporated, with \$300,000 capital, to make hard rubber goods. The shareholders

and the officers were the same as in The B. F. Goodrich Co., though the business was kept entirely separate. A few years ago the hard rubber company was merged with others to form the American Hard Rubber Co., with a large capital, and in which Colonel Perkins has since been a director. He is likewise a director in the Alkali Rubber Co., a large Akron concern in the rubber reclaiming business. He is interested largely in the chemical and other industries, the details of which may be spared here.

Colonel Perkins has endeared himself to the people of his native town by his liberal public spiritedness. The city has been beautified by the opening of a park of 76 acres, on Perkins Hill, which is entirely the gift of Colonel Perkins. He has been an unstinted contributor to many charities. He has at all times taken an interest in reunions of his comrades in arms, having been president for years of the Reunion Association of the One Hundred and Fifth Regiment, and has participated actively in the Memorial Day exercises at Akron.

"Old fashioned" in his tastes is Colonel Perkins—that is, as far as dislike for ostentation or pretense goes. "New fashioned," however, in his broad grasp of affairs, quiet energy, and shrewd knowledge of men and methods. With all his business acumen, and in spite of his gathered riches, he is the same simple, sane, everyday man that he always was.

The tolerance with which he views the mistakes of others, and the kindness that is so genuine a part of the man are an object lesson to the critical and the impetuous. May he live long to enjoy his well deserved laurels.

THE NEW PRESIDENT OF THE COMPANY.

MR. BERTRAM G. WORK, who succeeds Colonel Perkins to the presidency of The B. F. Goodrich Co., might be thought, at first blush, to be rather a young man for so important a position. When one remembers, however, that he is 30 years old, his birthday, by the way, falling on the day of the annual meeting that elected him to the office, it will be seen that he is not really a youth. Further than this, his experience and education have been such as to equip him naturally, easily and completely for the place. After graduating from the Sheffield Scientific School at Yale College, he entered the employ of the Goodrich company in 1887 as correspondence clerk. Later he had charge of the book-keeping, and still later was made assistant superintendent. For nearly 12 years as assistant superintendent and later superintendent, he was at the factory every morning at 6 o'clock, often remaining until late at night, and not only thoroughly mastered every detail of rubber manufacture, as expressed in the products of the Goodrich company, but was more or less a prolific inventor and a very practical systematizer, so that even before he became vice president, which occurred some three years ago, he had proved himself possessed of a high order of executive ability. Colonel Perkins, while retiring from active work in the company, still remains on the board of directors, and the election of Mr. Work to the presidency means that all the other officers take one step in advance.

THE LATEST GOODRICH BUILDING.

THE reinforced concrete construction for great buildings is what progressive manufacturers through the United States are rapidly adopting. The illustration shows a huge new building of that construction now being erected by The B. F. Goodrich Co. (Akron, Ohio). The building has been designed by the Osborn Engineering Co., of Cleveland, Ohio, and the Frank B. Gilbreth Co., of New York. It is intended for the storage of heavy merchandise and is one of the heaviest buildings of this type ever constructed. All of the floors have a carrying capacity of 1000 pounds per square foot. The building is 127 by 75 feet, six stories in height, and will have approximately 50,000 square feet of floor space. All windows throughout the building are glazed with factory ribbed glass, and special precautions have been taken to guard against danger by fire, the stairs being entirely of rein-

forced concrete. The form work for the first floor was begun October 27; second story, November 9; third story, November 17; fourth story, November 24; fifth story, December 7; and the sixth story, December 11. The gross amount of materials used in the



NEW CONCRETE BUILDING—THE B. F. GOODRICH CO., AKRON, OHIO.

construction of the building was 4500 tons of Portland cement, 800 tons of limestone, 200 tons of sand, and 300 tons of steel. The entire building is of reinforced concrete construction, with brick curtain walls supported on concrete lintels.

MECHANICAL RUBBER GOODS.

HIGH-PRESSURE HYDRAULIC HOSE.

THE new conditions which have to be confronted in modern engineering operations have made new drafts upon the ingenuity of rubber manufacturers. For instance, in the construction of the tunnels now in progress under the East and North rivers, at New York, a demand has arisen for hose capable of withstanding greater pressures than have been known before in connection with the use of rubber. The experiments entered upon in this connection by the Peerless Rubber Manufacturing Co. (New York) have resulted in their being able to turn out hose which has been tested successfully for pressure up to 10,000 pounds to the square inch, whereas it is not so long since the highest pressure test recorded was about 3500 pounds. The new hose referred to is used in operating the hydraulic jacks that move the shields used in the subfluvial tunnel work, and also by some of the electrical manufacturing companies. The new Peerless hose is described as being stronger than the couplings, which stand about 7000 pounds pressure. It is understood that the Peerless company have applied for a patent on their new hose.

* * *

THE "Tuebor" brand of rubber lined cotton fire hose, made by the New Jersey Car Spring and Rubber Co. (Jersey City, N. J.), is approved by the Associated Factory Mutual Fire Insurance Companies and the National Fire Protection Association, for factory and mill protection. It weighs 40 pounds per section and is guaranteed to withstand a pressure of 400 pounds.

* * *

THE Garlock Packing Co. (Pahmyra, New York) have obtained the exclusive selling agency in the United States (east of the Rocky mountains), and in Mexico and the West Indies, for the "Lauril" sheet packing, which is claimed by many foreign experts to be the finest packing of its kind made. It is recommended for gas engine work and for superheated steam, air, water, and oil; it has great tensile strength, and is made in any thickness.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent

IT is matter for satisfaction that a greatly improved tone is apparent in this branch. The demand for heavy coats for motorists has a good deal to do with this. There is also, it appears, a reaction among men in favor of the macintosh as being more satisfactory than the rainproof coats, especially the low class qualities. Although the various

THE WATERPROOFING TRADE.

means which have been put forward for ventilating rubber clothing have resulted in the failure to which they were foredoomed, the alternative of reducing the weight has been largely adopted, and has resulted in a gratifying increase of business. Where complaints are rife is in the ladies' waterproofs; though I don't profess any knowledge of the matter myself, I am informed by a manufacturer that rubber waterproofs are not now being worn, and that this state of things ought to be altered as a distinct menace to the well-being of the trade.

With regard to machinery the Rowley and Walmsley double deck spreading machine seems to have borne out what was predicted of it in the way of economical working, and another one has recently been built embodying one or two further improvements. Similar success has attended the Frankenstein and List patent spreading machine, which has fully substantiated the patentees' claims during the years it has been working. Owing to the vagaries of feminine fashions, the production of color printed single textures has shrunk a good deal during the last two years. As practically all of the double proof textures are vulcanized by dry heat, this means that the smearing process has very little application at the present time. Considering the litigation which once occurred as to patents rights for this or that medium for facing the single texture before printing, it is interesting to note that more of the printing is nowadays done without the use of any powder; that is, the colors are printed direct on the rubber surface.

A point about proofing trade of some interest to the rubber expert is that since the use of the dry heat vulcanization process became general there has been a cessation of the lawsuits which at one time were such a feature of the trade. At the present time the manufacturers have the experience of the past as a guide to their actions, and this, coupled with the practical abandonment of the cold cure process, has very greatly minimized the amount of defective work.

The patent rights for this process, which has been previously referred to in these notes, have now passed into the hands of

PENTHER'S RUBBER SCRAP PROCESS.

Mr. J. E. Baxter, of the Leyland and Birmingham Rubber Co., Limited. This applies not only to the British rights, but in all countries where patents have been taken out. A new factory is now in course of erection at Leyland, where the system will be worked on a large scale by J. E. Baxter, Limited, the company previously known as the Dialene Co., manufacturers of a specially reclaimed rubber. The original Penther machine is now being brought over from Germany and will be erected in the Leyland factory. As regards foreign countries, I understand it is the intention of the Leyland firm to grant licenses on terms which consist of the company supplying the machine (which costs about £2000) and taking a certain share of the profits resulting from its operation. Without going again into the details of the process, it may be repeated that fiber is completely separated from the ground rubber by air current, and is recovered in the form of fluff which finds a ready sale to felt manufacturers and upholsterers at a remunerative price. It is hardly necessary to say that in all other processes as now worked the textile material is destroyed by means of either acid or alkaline

solutions. In the Penther process the material is subjected to subsequent washing and drying, and it is a matter of fact that there is a saving in time, and consequently in cost, if the process do not, I understand, about 100 per cent. The process is direct, and presumably the iron which the water carries off will have to be removed before the water is sent to the sewer. With regard to this class of waste rubber, it is the only sort which has not shown a rise in price during the last two years, whereas most scrap has gone up considerably.

"RED RUBBER."

The author of the book recently brought out under the title of "Mr. E. D. Morel, the honorary secretary of the Congo Reform Association, in England," the Congo situation is attracting great attention in this country, where Mr. Morel has addressed large meetings in many of the principal towns. He is addressing recently a meeting on the subject, and the demand for condemnation of the King of the Belgians was screaming to be remembered, not only for the real display in stamping the nose of the rubber gatherers, but also for the symbolic action in which the philippe was rendered. From what Mr. Morel says in his speeches it is evident that he looks upon the recent grant of Congo land to an influential American syndicate as an astute move calculated to stem the tide of indignation in the United States and to prevent the harmonious working together of Great Britain and America in the forthcoming political proceedings. In Gustave Van der Kerkhove's interesting communication to this journal in 1904 on the regulation of trade in operation in the Congo Free State he states that practically the only advantage accruing from European supervision has been the cessation of adulteration. According to Mr. Morel's book, this has been brought about by the somewhat drastic punishment of making offending collectors drink the latex which they have adulterated.

The name of Reddaway in connection with belting is so well known that any new departure from established procedure in the manufacture is sure to be of interest.

CHOUAMEL BELTING.

It is well known that in some climates, in India especially, the very heavy dew saturation of cotton belting to such an extent that it is some time before work can be proceeded with in the morning. Though the camel hair belting shows this disadvantage less than many brands of belting, Messrs. F. Reddaway & Co., of Manchester, have recently patented a belting which does away with the trouble altogether. To this the not very euphonious name of "Chouamel" has been given, the improvement consisting of a layer of vulcanized rubber on both sides of the ordinary camel hair felt. By this means it is contended that, while the ordinary advantages of camel hair belting are maintained, it is now rendered quite proof against the troubles incidental to textile felts working in moist climates.

A good deal has been written about this new form of rubber tire in the automobile journals recently, though I have not

THE HARTRIDGE TIRE.

so far come across the name of Messrs. Edmon Brothers, of Leyland, the rubber mechanists, as having been concerned in its development, the design of the steel wheels having been worked out by them after a considerable amount of experimental work. It is stated, if this tire is, of course, that the rubber is not so much subjected to heat, easily and expensively being replaced as the old tires get worn in any particular place, and can be changed out at the garage with out getting the whole of the wheels. The arrangement of the rubber segments is well carried out in various ways. In fact, I believe I am right in

saying that 20 or 30 variations have been experimented with. In connection with the experiments a good deal of interesting information was obtained as to the behavior of the rubber blocks under the pressures they experience in these wheels. For instance, it was found that rubber made up from calendered sheet, as in the case of a buffer, was quite unsatisfactory, and a different method of preparation had to be adopted. One of the principal claims of this tire to notice is that it does not skid, and if this is fully borne out in practice it should have a great future, now that it has been stated by mini-ters in Parliament that the London commissioner of police will make non skid tires compulsory on buses in the London streets as soon as a satisfactory tire is produced. Besides being fitted to steel wheels, these tires are also being supplied by Messrs. A. Scammell & Nephew, of Spitalfields, London, fitted on wooden wheels, and the makers are prepared to supply tires and wheels complete on maintenance contracts at 2 pence per mile.

A FRIEND of mine who has had a good deal to do with planting in Jamaica recently gave me a sample of remarkably strong, clean rubber which was obtained in the island. A sample which was submitted to Kew was stated to be the product of a creeper, probably the *Forsteronia floribunda*, an account of which in connection with Jamaica rubber generally is to be found in the *Kew Bulletin*. Up to the present the rubber vines in Jamaica have been used only as binding material, no rubber being exported from the island. The sample in my possession was coagulated by exposure to the sun and is certainly of very good quality, though sufficient is not available for practical tests. Jamaica has been described as a land of small things, and as the native creepers could hardly be successfully cultivated it appears that any forest rubber industry would only be short-lived. It is suggested, however, that the rubber vines will probably be found more plentiful in Hayti and San Domingo, which might then become the source of a remunerative industry. If rubber planting is to take place in the West Indies attention will of course be paid to the Pará tree, and in connection with this a Jamaican planter of experience recently wrote to a London paper advising British capitalists or young planters to note the potentialities of the West Indies for rubber planting.

ELECTRIC driving is only to be found in one or two of our rubber factories, but its advantages in the case of accidents to workmen are certainly a strong point in its favor which does not seem to have had attention drawn to it. At the works of the Leyland and Birmingham Rubber Co., where electrical power is largely employed, an ingenious contrivance, in form somewhat like a fire call, is placed in close proximity to each washing and mixing roll. Should an accident occur, breaking of the glass instantly cuts off the electric current, thus ensuring complete stoppage of the machinery. In the case also of the steam driven machinery at the same factory a similar electrical contrivance connected up to the engine causes steam to be shut off instantly in case of need. So far any such safety gear is not compulsory in Great Britain, as in Germany, Austria and Belgium.

An importation made by the Bishop Gutta-Percha Co. (New York) was assessed for duty as a manufacture of gutta-percha, against which the importer protested. The protest was sustained by the United States general appraisers in a decision which states that the merchandise in question "consists of gutta-percha put up in the form of sheets and apparently having undergone a process of purifying, advancing it from its crude condition." It could not be learned just what treatment the material had received. The decision concludes: "Unquestionably it is not in the crudest form in which gutta-percha may be procured, but the most that can be said of it is that some of the impurities have been removed; it is still gutta-percha, and cannot, in any sense, be said to be a manufacture thereof."

RUBBER INTERESTS IN EUROPE.

DUNLOP REORGANIZATION.

THE appeal of the dissatisfied shareholders in the Dunlop Pneumatic Tyre Co., Limited, against the proposed reorganization plan having been withdrawn, the reduction of capital as sanctioned by the court will be proceeded with. The readjustment of classes of capital is indicated by these figures:

	Present.	Proposed.
Preference shares	£1,000,000	£1,000,000
Ordinary shares	1,000,000	625,000
Deferred shares	2,000,000	500,000
Total	£4,000,000	£2,125,000

The reduction is made on account of the writing off from the company's asset sheet of a large sum representing "good will," in view of the expiration of the basic patents under which they operated so long.

NO MONOPOLY OF THE NAME "DUNLOP."

In the court of session of Scotland, in an action brought by the Dunlop Pneumatic Tyre Co., Limited, to restrain the Dunlop Motor Co., Limited, from the use of the name "Dunlop" in connection with the sale of motors and tires or other accessories, it was held that proof was lacking that the business of the respondents had been organized "for the purpose of passing off their goods as and for the goods of the complainers, and for the purpose of taking advantage of the reputation which the goods manufactured and sold by the complainers had acquired." The Dunlop Motor Co., Limited, is composed mainly of persons of the name of Dunlop, and was formed to succeed to the business of R. & F. J. Dunlop. The court recognizes the right of these persons to trade under their own name, regardless of the fact that some of the goods they handled might be of the same class as the products of the Dunlop Pneumatic Tyre Co., Limited.

GREAT BRITAIN.

WHILE the works of The Dermatine Co., Limited (London) were closed, during the recent holiday season, the opportunity was taken to repair the main Dermatine driving belt, which has been in use for 21 years, without previously having been repaired. The belt is 24 inches wide and weighs nearly 13 hundredweight.

The directors of the Amazon Steam Navigation Co., Limited, have declared a dividend on account the current year of 2 per cent, or 5 shillings per share, payable on and after January 4, 1906.

The accounts of the Amazon Telegraph Co., Limited, the company operating the Pará-Manaós cable line, for the year to June 30, 1906, after providing for the debenture interest, show a surplus of £3623 (=\$17,931.33), thus reducing the debit balance brought down to £74,007 (=\$303,074.07). The company was formed eleven years ago, with £250,000 capital, and the debentures outstanding amount to £255,000.

At the annual meeting of the Liverpool Electric Cable Co., Limited, a dividend of 7½ per cent was declared. During the year the company's plant was nearly doubled. This company is an outgrowth of the Liverpool Rubber Co., Limited, with which it is affiliated.

Mr. C. W. Edmonds, European manager of the Home Rubber Co. (Trenton, New Jersey) at Balfour house, Finsbury pavement, London, E. C., was a recent visitor to the home offices.

GERMANY.

THE American Association of Commerce and Trade, at Berlin, now in its fourth successful year, has a membership divided equally between American and non American firms. Recent accessions to membership have been Continental Caoutchouc-und Guttapercha-Compagnie and the Hannoversche Gummikamm-Compagnie, both of Hanover.

Progress of Rubber Planting.

RUBBER PLANTATIONS IN PARA STATE.

THE planting of rubber seems to have received more attention in the Amazon Valley than has been generally known.

Reference was made in THE INDIA RUBBER WORLD last month to the serious treatment of this subject in the recent annual messages of the governors at Pará and Manaus. Since then a copy of the *Folha do Norte*, of Pará, comes to hand with an article on plantations of rubber already established in the Amazon region.

The information is gained from a Senhor Moura, a Portuguese for 12 years manager of a rubber *seringal* (camp) at Porto Alegre, on the river Madeira, owned by a mercantile house. A dozen or more Brazilians are mentioned, mainly in the Manicoré district, who have planted more or less rubber. One plantation is mentioned as dating from 1886, though for the most part the trees under cultivation are about three years old, at which age a height of 5 meters is reached. Some of the planters named have 2000 or 3000 planted trees each, and one is named with 20,000 trees. Generally, according to Senhor Moura, the planting has been done by merchants, and the progress made has been such as to encourage them to continue planting. In addition to what is reported above, *Folha do Norte* says that it is well known at Pará that rubber has been planted on several foreign owned estates in Brazil.

HAWAIIANS PLANTING IN THE MALAY STATES.

THE Pahang Rubber Co., Limited, incorporated in the territory of Hawaii, with \$150,000 capital, have leased 2000 acres in Pahang, one of the Federated Malay States, on which to establish a plantation of *Hevea* rubber. The program for 1900 called for the planting of 200 acres, and it is planned to have 1000 acres in rubber within three years. Dr. E. C. Waterhouse, of Honolulu, is president of the company; D. P. R. Isenberg, vice president, and Fred T. P. Waterhouse, secretary and treasurer. The manager on the estate is George M. Hording.

PLANTING "CASTILLOA" RUBBER IN COLOMBIA.

WRITING from Quibdo, in the valley of the Atrato, in Colombia, on the planting of *Castilloa* rubber in progress there, Mr. J. E. Diaz predicts that within five years there will be more than 3,000,000 trees under cultivation. This region was referred to at length in THE INDIA RUBBER WORLD of December 1, 1905 (page 75), and a map given, showing the location of several plantations of rubber. Mr. Diaz gives the extent of several of these, as follows: Meluk & Co., 150 acres; Abuchar Hermanos, 260; Henry G. Granger, 560; Juan C. Olier, 350; Tomas Guerrero, 270; Juan L. Castro, 290 acres. The most important of all, it is stated, is "La Felicia," owned by Gonzalo Zuriga, on which there is 1000 acres of rubber from one to four years old.

A FAR EASTERN SCARE AT AN END.

CERTAIN reports which were cabled around the world not long ago relative to an alleged "rubber trust," designed to "corner" the entire supply of crude rubber, gave some concern to the planting interest in the Far East. The basis of the report was the strengthening of the European end of the organization which supplies raw material for the United States Rubber Co. and its constituent companies. *The Straits Times*, of Singapore, after an investigation of the "trust" rumors, disposes of the matter in an editorial which concludes as follows: "Reuter wired the news of an attempted or concluded operation in the corner line, and set everybody out here wondering how a corner would affect their interests in rubber. It is evident now that no corner has been attempted or intended, and all that has taken place has been a legitimate effort on the part of an amalgamation of rubber companies to secure a sufficiency of that commodity to meet requirements."

MEXICAN PLANTING NOTES.

THE shareholders in The Tehuantepec Rubber Culture Co. (New York) have elected as official inspector, to visit Plantation "Rubio" this year, Mr. A. St. John Whiting, of Boston, who was to start for Mexico during January.

The Grijalva Land and Coffee Co., Limited (Chicago) hope to complete this year the planting on the tract known as the Montezuma plantation in Chiapas, Mexico, of some 1000 acres of *Castilloa* rubber. Part of the rubber already planted is now about six years old, and about 400 acres two years old.

Professor L. A. Ostien, widely known for the work he has done in the State Agricultural School of Utah, and who is familiar with Mexican planting, lately returned from a tour of the "hot country," making frequent stops between Orizaba and the Isthmus of Tehuantepec. He was impressed particularly with the rubber prospect in the region surrounding Santa Lucrétia, on the isthmus. He writes: "There are many groves of cultivated rubber containing from 100,000 to 1,000,000 trees. While most of this is young, the trees from 5 to 8 years from seed are being tapped with very satisfactory results. In this section there are many wild rubber trees that have escaped the axe of the native."

Joaquin Miller, of California—the venerable "Poet of the Sierras"—is now something of a rubber planter. He owns a ranch in Mexico, where he spends his winters, and rubber is one of the crops under cultivation.

THE MACHETE FOR TAPPING RUBBER.

THE machete as a tapping tool has many friends and an increasing number of enemies. The native rubber gatherer, of



RUBBER TREE CUT BY A MACHETE

[*Castilloa* tree tapped in June, 1905. Photographed April 1906.]

course, believes in it because it's the only tool that he understands for any purpose. In certain sections it seems that whatever he does to the *Castilloa* trees, for example, is productive of no harm.

In parts of Panama the trees are butchered in the tapping and still are thrifty. In Guatemala the natives who have small plantations of their own often cut steps to the upper reaches of the tree with the machete and the tree never rots, nor is it attacked by insects.

On the Mexican plantations, however, it is almost the universal belief of the planters that almost any tapping by the machete is damaging. The illustration shows a tree on one of the best of the Mexican plantations which was tapped carefully by a skillful machete artist, but in spite of all care insects got into the cuts and injured the tree and not only that, the bark, instead of drawing together and healing, spread apart, leaving the bare wood exposed.

FEDERATED MALAY STATES.

REGARDING the Lanadron estate, in the Federated Malay States, the exhibit from which took the highest award at the Ceylon rubber exhibition, a London newspaper says: "Two sons of Mr. Andrew Pears, of the great soap-making firm, are part owners, and Mr. Frank Pears is the manager. This firm may perhaps be considered as the pioneers of the rubber industry in the Malay peninsula. Besides Lanadron, Mr. F. Pears is superintending the planting of another large estate. When he first went to Lanadron he had to go 250 miles up river in a common boat. The climate is not so hot as that of Calcutta, but its great humidity has to be fought against. It was formerly all jungle where these plantations now are."

The report of the first year's working of the Federated Malay States Rubber Co., Limited—the company owned at Antwerp—shows 13,322 pounds of rubber to have been gathered from 10,453 trees on their West Country estate, in Selangor. During the first six months of the second year, it is stated, 16,300 pounds were obtained from the same trees. The majority of the trees are said to have been less than 7 years old at the beginning of the work. These figures are so large that the suggestion has been made by some planters that the trees referred to must have been over-tapped.

The Tampoy Rubber Co., Limited, has been incorporated at Singapore, with a capital of 350,000 British dollars, to purchase a rubber property in the Malay States, the vendors accepting \$100,000 in shares in part payment.

The success of the recent Ceylon rubber exhibition has given rise already to the discussion of plans for another show of the same kind, and some of the Far Eastern newspapers consider it as practically settled that one will be held within the next three years, most probably in the Malay States.

Some leading firms of Colombo (Ceylon) are establishing branch houses in the Federated Malay States, and better shipping facilities to the latter region are in prospect, on account mainly of the growing importance of the rubber planting interest there.

The Vallambrosa Rubber Co., Limited, operating a plantation in Selangor, pay an interim dividend for their second year at the rate of 30 per cent per annum.

A PLANTATION IN GUATEMALA.

THE Compagnie Franco-Belge du Guatemala has been formed at Brussels with a share capital of 2,000,000 francs [=\$386,000] to acquire and work estates in Guatemala and cultivate india-rubber. One-half of the share capital of the new company has been subscribed by a Paris financial group, while the remainder has been taken up by the Compagnie Belge de l'Amérique Centrale, which has increased its share capital by 1,000,000 francs for this purpose.

CULTIVATED RUBBER FROM AFRICA

THE INDIA RUBBER WORLD is in receipt of samples of cultivated Ceará rubber from four year old trees on a small plantation known as Senigalla Farm, Fort Jameson, Northeastern Rhodesia. The rubber was air dried and worth at the present market 90 to 95 cents.

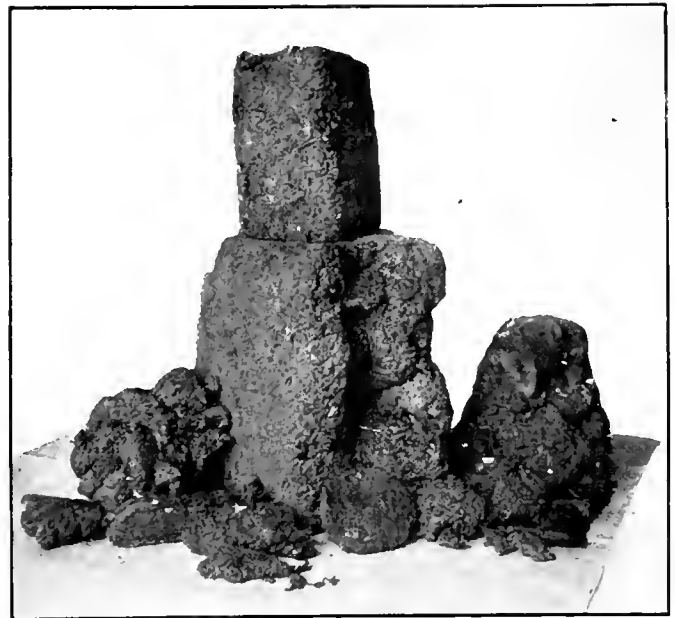
PLANTING IN SAMOA.

THE Tiavi-Kautschukpflanzungen aus Samoa, with a capital of 1,000,000 marks [=\$238,000], has been formed in Berlin. The purpose is to plant to rubber 3000 acres on the south side of Upolu, one of the Samoan islands.

Three *Hevea* rubber trees on the plantation of T. Andrew, near Apia, Samoa, aged 6 years 3 months from the seed, were tapped four times, between March 10 and April 10, 1906, and yielded a total of 9 ounces of dry rubber. The trees measured in girdle 24½ inches, 23 inches, and 21½ inches. Of the total yield, 37 per cent was obtained from the smallest tree, on which alone the spiral tapping system was used.

PLANTATION RUBBER FROM MEXICO.

THE illustration herewith is from a photograph of the first consignment of plantation rubber from the estate of The Oaxaca Association, of Chicago, at Buena Ventura, State of Vera Cruz,



PLANTATION RUBBER FROM MEXICO.

Mexico. The weight is 285 pounds. The rubber was obtained from cultivated *Castilloa elastica* trees, 7 to 9 years old, the average yield, from one tapping, being 2 ounces. The company will have 400,000 rubber trees 7 years old by 1909.

GRADES OF PONTIANAK.

A FIRM in New York offering quotations on different grades of pontianak (gutta-jelutong), and being asked for a description of the difference, advises THE INDIA RUBBER WORLD: "There are several grades of pontianak, but the two most commonly used are the regular pontianak and the plantation, which is often called an old fashioned quality. It comes in large loaves and is generally very uniform in quality. The price is about one half cent higher than regular fair average quality."

On the same date there comes to hand a copy of the Singapore *Agricultural Bulletin*, in which appears this note by the editor, Mr. Henry N. Ridley: "Jelutong comes now largely from Sumatra, as well as Borneo. Mr. Gustav Fischer, of Palembang, tells me the Sumatra jelutong is preferred by dealers now. He has been tapping trees after the style used in Pará rubber trees, and is obtaining improved samples. The tree is abundant in the [Malay] peninsula, but seems here to be quite neglected."

AMERICAN IMPORTS OF PONTIANAK (IN POUNDS).

1903.....	10,904,437	1905.....	25,369,473
1904.....	14,867,007	1906 (11 months)...	13,977,832

Tires at Madison Square Garden.

THE Madison Square Garden automobile show (January 12-19) was by far the best ever held in New York, both in the matter of cars and accessories, in completeness, in attractiveness as a spectacle, and in point of attendance. The extension of the first balcony into a flying stage, for car exhibits, was not favorable for attractive attention to the accessories, though this does not mean that the tires were neglected. The bad weather cut down the number of curbstone exhibits outside, though the private exhibits in the neighboring shops more than took up the slack. The Garden, large as it is, was too crowded, and thus, together with the increasing tendency to make the show a society affair, rather interfered with its business purposes. The crowd hung about the cars, only a small part of them finding their way into the galleries, where most of the accessories were.

The exhibits of tires and rims showed the tremendous influence of the Vanderbilt Cup race. Detachable flanges and removable rims were everywhere, and attracted more attention than the tires, though practically all of the patent rims are owned by the great tire companies. Antiskids were not numerous or conspicuous, these being, except for the Midgley and Bailey types, closely modeled upon the European makes. The Jenatzy antiskid tire was exhibited on the curb, on a Peerless car. It was also interesting to see that the Weed chain was used on nearly all the demonstrating cars, being the only anti-kid which could handle the deep snow. Even Bailey treads were seen with chains on them.

Five new tires were exhibited for the first time: the Trident tire and rim, the Dow self-sealing tube, the Punctureproof tire, and the Pullman and Schneider spring tires. The Republic Rubber Co. have made so many changes that their tire might properly be called new, as well as their new detachable flange. The Shaler electric vulcanizer was also exhibited for the first time. The Diamond Rubber Co. received a sample of their new antiskid during the Palace show, in December, but hardly in time to advertise it fully. It drew much favorable attention at the Garden, being much like the Continental tread. The Pennsylvania Rubber Co. showed their new antiskid, which is a close copy of the Michelin studded leather tread. The Firestone Tire and Rubber Co., the Pennsylvania Rubber Co., the Ajax Grieb Rubber Co., the Harburg Tire Co., and the Fisk Rubber Co. each showed a new detachable rim.

The Trident tire is characterized mainly by its thickness—in tread, walls, and bead—almost approximating the cushion type. Both this and the Republic tire have square edges, meeting in the middle, Fisk-like, the idea being to prevent rim cutting and to make the tires waterproof. The Republic tire has its toes tipped with soft rubber, to better gain this waterproofness.

The Dow inner tube is reinforced over the outer half of its surface, the space between the two layers being filled with a simple compound, such as a pulp of paste and fiber. Though the public were rather indifferent toward all accessories this tube drew much attention, practical tests demonstrating that it would bear frequent punctures without loss of air. It fits any tire.

The Punctureproof tire is a split clincher cushion tire, the support coming from the thickness of the walls, and side cracking being prevented by several plies of canvas, according to size.

The Pullman tire depends upon coiled springs for its elasticity, the whole being covered by a rubber tread and side flaps.

The Schneider is a rather heavy spring tire, in which the resilience is derived from replaceable rubber arches.

The Traction Tread tire has cut off its characteristic projecting tread, decreased the depth of the corrugations, discarded the rigid tread idea, and thickened the walls and beads, thus approaching the standard flat tread type.

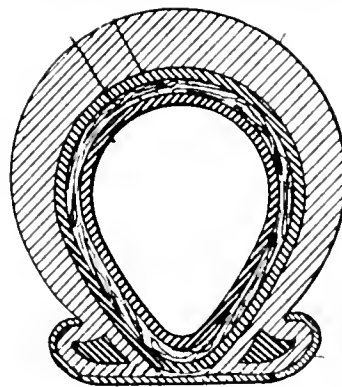
The other tires remain much the same, even makers duplicating here their exhibits at the Palace show of the year earlier. Nearly all are offering flat tread, and both the Diamond and Rubber Co. are making a Fisk type, and the International Rubber Co. are making Dunlops. The Firestone Tire and Rubber Co. are extending their clincher type. The Saker Fire Grip is new, differing from the Weed chain grip in that on the side holding, the side chain being replaced by a perforated steel band.

In the matter of rims there was much to be seen. The Fisk removable rim, invented by Superintendent J. C. Cole, of the Fisk Rubber Co., is characterized by its great convenience. The valve being nonprojecting, the rim can be slipped on the wheel in any position, where it is held by an outspreading prismatic ring, the expansion being gained by forcing the split ring up over an inclined plane by means of felloe bolts.

In the Pennsylvania removable rim the felloe band bears several countersinks, and lock slots, which receive corresponding offsets on the rim. In attaching, the rim is slipped on the felloe band and turned slightly, which moves the offsets into the lock slots. Two felloe bolts further secure the rim.

The Firestone Tire and Rubber Co. showed a rim in which the detachable flange is endless and provided with two spurs, the flange being held on by a split locking ring. The valve also carries a spreading lug. The flange is put on so that the spurs will be opposite the spreader. The ends of the locking ring have holes to receive the flange spurs, where they are held by the spreading lug.

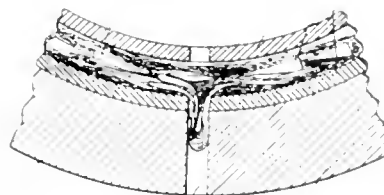
In the Republic Tire Co.'s rim the detachable flange has a downset which fits against a similar downset on the rim. The



THE DOW TIRE—PROFILE

two downturned edges are then clasped by a half hollow split ring, the ends of which are then held by bolts.

The Trident Tire Co. offered a simple and efficient rim, in



THE DOW TIRE.

[Showing action of filling material in case of puncture.]

which the detachable flange has an offset underneath, this offset being engaged by felloe bolts with square washers. This rim was much admired.

The Ajax-Grieb detachable flange is slotted underneath, as is also the flat rim. An easily detached split locking ring fills these corresponding slots on the tongue and double groove principle.

The show was the seventh held in the Madison Square Garden, and the second held under the auspices of the Association of Licensed Automobile Manufacturers. There were 249 exhibits, 45 of motor cars and 204 of accessories. Of the cars shown, 216 were pleasure vehicles and 22 for commercial use. Twelve of the makes of cars shown were foreign. The various foreign tires now on the American market were also represented.

A NEW AMERICAN MICHELIN AGENCY.

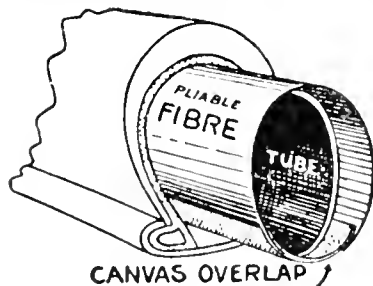
EMILE LAMBERJACK, of Paris, who for several years has been the sole export agent of the tire product of Michelin et Cie (Clermont-Ferrand), has formed a new company and taken over the rights, effects, and good will of the Michelin Products Selling Co., Inc. (Nos. 31-33 Thirty-first street, New York), hitherto the exclusive representatives of the Messrs. Michelin in America. The new company will be known as E. Lamberjack & Co., Inc., and will occupy the offices and salesrooms at the location named above. Under the new arrangement Michelin et Cie will deal directly with their patrons in America, and it is intimated that a lower scale of prices on their tires will go into effect. The Lamberjack company is incorporated under the laws of New York, with \$10,000 capital. The incorporators are: J. E. Lamberjack, Paul La Croix, and M. G. Bernin. The same interests, under the name Franco-American Auto and Supply Co., at Chicago, will be distributors of Michelin products in the central and western states.

NEW TIRE DEPOT IN NEW HAVEN.

THE Colonial Rubber and Lumber Co. has been incorporated at New Haven, Connecticut, with \$25,000 capital authorized. George H. Rynedance is president, Dr. William F. Verdi, vice president, and George Bryning, secretary. The company controls the New England representation of the Pennsylvania Rubber Co. (Jeannette, Pa.), and will build up a wholesale and retail business in rubber tires and mechanical rubber goods, at Nos. 494-496 State street. The company succeeds the Springfield Rubber Tire Co. and the New England Tire and Rubber Co., both of New Haven. The company will also do a wholesale lumber business, making a specialty of mahogany.

"INNER SHOE" TIRES.

THE Inner Shoe Tire Co. (Grand Rapids, Michigan) are producing an inner shoe made of a specially thin 12 ply laminated



fiber, which is said to have great strength, coupled with pliability. This fiber is formed by machinery into full smooth tire shape with canvas overlaps, which latter are designed to prevent or hold rim cuts. It is made self-cementing by having its outer surface given a coat of special

cement, which, when the inner shoe is in use, first softens and then sets, thus making the lining a part of the tire. The inner shoe is inserted just as an inner tube would be. These new shoes are made in sizes to fit any ordinary automobile tire. The same company also makes fiber treads to go inside the tires, and repairs patches for both inner and outer application.

REUNION OF THE OLD DUNLOP TIRE STAFF.

THE annual reunion of the men who formerly composed the staff of the American Dunlop Tire Co. occurred this year at the

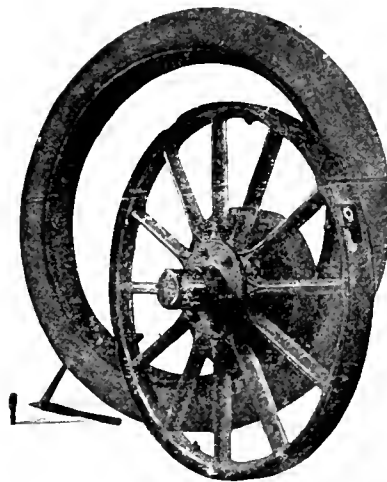
Hotel Astor, in New York, on January 17, which was during the automobile show week. The Dunlop company in time became merged with the Rubber Goods Manufacturing Co., and the former staff became considerably scattered. Among those present were Kirk Brown, now general manager of the Yale and Towne Manufacturing Co.; Alexander O. Holroyd, superintendent of the Dunlop tire department of the Hartford Rubber Works Co.; A. E. Osterlob, Chicago manager of the Goodyear Rubber Co.; William Perratt, Detroit manager of the Diamond Rubber Co.; Robert La Porte, Pennsylvania representative of the Hartford Rubber Works Co.; William Fetter, Philadelphia representative of the Goodyear Rubber Co.; and W. Heath Kirkpatrick, sales manager of the Peerless Motor Car Co.

AMERICAN TIRE NOTES.

THE Harburg Tire Co. (New York) are making the very strong claim that their rubber absolutely cannot separate from the canvas and they stand ready to prove it—at least in very many cases. These tires are made by the great Harburg-Wien company, with factories at Harburg, Germany, and Vienna, Austria.

The Fisk Rubber Co. (Chicopee Falls, Massachusetts) make a good point in describing their tire—that the air cushion is entirely above the rim, which makes materially for comfort.

An automatic tire inflator that fills any tire in two minutes' time is Maxfield's, marketed by Brown Brothers, Limited (London). It can be fixed to any car and consists of only two parts, an air compressor and an air chamber, the compressor being driven by friction from the flywheel or clutch of the motor.



PENNSYLVANIA RUBBER CO.'S REMOVABLE RIM.

Francis R. Sherwood, M. D., of Chicago, writes that he has run, on an 1800 pound runabout, 30,000 miles on Swinehart tires. He claims that his machine is in good order and so is he.

Motz, of Akron, is out with a new cushion tire for which he claims much greater resiliency, increased traction, a decrease in liability of skidding, and practically a better tire for sandy roads than anything yet marketed.

Aster & Co. (New York), who handle the "L'Electric" clincher tire, of French make, have a nonskid tread known as the Adams, in which the rivets, when the tire is not in use, are flush with the base of the tread. The tread itself, however, is of specially soft vulcanized rubber, which crowds out of the way, allows the studs to grip the roads, and thus prevents slipping.

A new tire protector has been brought out by the Standard Tire Protector Co. (Peoria, Illinois).

A point that the Firestone Tire and Rubber Co. (Akron, Ohio) make about their "Dual" tires is that, in case accidents happen to them, it very rarely happens that both tires are affected, and, therefore, results are never likely to be serious.

The Goodyear Tire and Rubber Co. (Akron, Ohio) are pushing their "Wing" tires in the carriage trade very successfully. It will be remembered that the "Wing" keeps water, sand, and grit from working between the channel and the tire, and all the wear, therefore, comes upon the tread.

The Swinehart Clincher Tire and Rubber Co. (Akron, Ohio) are out with a new motor truck tire of the twin form, molded in one piece, held by clincher fastenings, and by a quarter inch steel cable encircling the portion between the two sections.

The Michelin Products Selling Co., Inc. (New York), have been furnishing with marked success an extra heavy non-skid tire with Samson covering for fall and winter use.

The B. F. Goodrich Co. (Akron, Ohio) are now regularly equipping with their 1907 tires cars manufactured by the White Sewing Machine Co., the E. R. Thomas Motor Co., the Winton Motor Carriage Co., the E. R. Thomas Detroit Co., the George N. Pierce Co., the Cleveland Motor Co., the Dayton Motor Car Co., the Primer Motor Manufacturing Co., the Stanley Motor Car Co., and the Moon Motor Car Co., and are not only running their tire department night and day, but are rapidly pushing to completion a huge building for the manufacture of auto tires.

Many people with the best intentions are dating their letters January or February, 1906, when they mean 1907. No doubt the same people are writing Morgan & Wright, Chicago, when they should say Detroit.

In bicycle tires the Diamond Rubber Co. (Akron, Ohio) are still pushing the "Diamond Hunter," but with a special raised tread for this year's trade.

The Harburg Tire Co. (New York) are having great success with their new detachable rim, which can be taken off the wheel in less than one minute by the use of a very simple tool.

A new steam vulcanizer for tires and tubes has just been brought out by the John Wishhart Machine Works, Chicago. The vulcanizer is capable of repairing the smallest puncture or re-vulcanizing an entire tube.

An exceedingly effective and simple tool for removing clincher tires and suitable for all sizes, has been brought out by the Shawver Co., of Springfield, Ohio.

EUROPEAN TIRE NOTES.

THE Continental Tire and Rubber Co. of Great Britain, the English branch of the Continental Caoutchouc and Gutta-Percha Co. (Hannover, Germany), are guaranteeing their solid tires for 10,000 miles.

The Gaulois Tire Co.—"Gaulois" being French—have adopted and are pushing "Agrippa" nonskids on their tires.

Andre Michelin of Clermont-Ferrand, France, has just been testing the use of antiskids on one rear wheel and on both, and has proved beyond cavil that two antiskids are necessary.

The Hannover Gummi-Kaam Co. (Hannover-Limmer, Germany) are building one type of their solids known as "Excelsior" with a tread so much like the Bailey "Won't-Slip" that it looks as if they were paying the inventor of that excellent device a very high compliment.

The Sirdar Rubber Co., Limited (London), advertise that their tires are "free from notches, which weaken the rubber." At the same time the notched tires are still in the ring.

The twin tires on the motor buses in London still seem to skid. An ingenious device to overcome this has been brought out by Reid & Rickie, Scotch mechanical engineers, which consists of an extra pair of wheels rigidly fixed to the solid rear axle. When the steering wheels turn either way these wheels lock in such a manner as to prevent skidding—at least so it is said.

The English Dunlop company have a steel studded non-skid racing tire that, after severe tests, has now been put on the market. Americans will remember that metal studded tires are very apt to go to pieces in a race when the cars are rounding curves at high speed. The steel studs that are in the Dunlop tire are not only imbedded in the tire itself but are securely held by countersunk washers placed behind a specially toughened fabric.

The United Omnibus Co. (Brighton, England) are prepared to swear that tire No. 300 on the rear hind wheel of bus No. 477 shows a mileage of 16,800.55 miles. It was a Peter Union solid tire.

The Automobile Club of London are about to inaugurate extensive trials of non-skidding devices for motor buses. The information thus derived will undoubtedly be of the greatest value.

A new tire for heavy work is the "Hartridge," which is made of five or more tires grouped together, with flat treads, held firmly by side flanges and showing an obstacle to side slip which is really very remarkable.

An English tire house, and handler of Goodrich solid tires are quoting in their advertisements a letter from one of their customers who returned a set of tires to be "refixed" after having been run 80,000 miles. They are seven years old.

"Elastes," a new tire filler, is said to be made of gelatine, glycerine, and chromic acid, but mixed very differently from the manner in which that well known compound had been put together in the past.

David Moseley & Sons, Limited (Manchester) offer as their leader in the 1907 trade, Moseley's "Perfect Detachable" tire. Instead of being beaded, the edges of the tire cover are made inextensible by having embedded in them several strands of flexible but very strong piano wire. "Yet," says their announcement, "pending the disappearance of the beaded edge type, we shall continue to supply it."

SOME WANTS OF THE TRADE.

[374] REQUEST has been made for the addresses of parties supplying "Petrolatum," a compounding ingredient described recently in this journal.

[375] The name of the manufacturer of "Electric" rubber hose, in 500 foot lengths; also the names of those manufacturing gutta-percha tissue.

[376] A European manufacturer wishes the address of an American concern furnishing either steel or hard rubber type shuttles for typewriters, similar to those on Hammond machines.

[377] Information is asked regarding firms manufacturing steel lugs that are inserted into single tube cycle tires. One part of the lug is vulcanized in the tire and the other part is a screw that screws into the lug.

[378] Addresses are wanted of manufacturers who furnish cloths, surfaced, calendered and frictioned; also the names of manufacturers of ducks, cottons, sheetings and muslins.

[380] Some information is desired regarding the sources from which Pelambang, sometimes called No. 5 Borneo, comes—if from other places than Singapore.

[381] A correspondent writes for information concerning a machine made in Germany for cutting beer bottle washers, which will cut three tubes at a time, the tubes being fed in 50 or 100 foot lengths, so that the operation of the machine is practically continuous.

[382] A request is made for names of manufacturers producing carpet sweeper wheel and protector bands.

[383] We have had an inquiry as to who manufactures the Carnation brand of rubber bands. Can any of our readers give the desired information?

[384] We desire to correspond with the manufacturers of tapping tools adapted to use in connection with the *Castilla elastica* in Mexico.

GROWTH OF THE COTTON INTEREST.

THE cotton goods industry in the United States, by all accounts, was never before so prosperous as at this time. The year 1906 showed a large increase in the number of mills, besides extensions of many old mills. The total number of new spindles is estimated at between 1,500,000 and 1,750,000. The growth of the cotton goods industry in the United States for a quarter of a century past is indicated by the following figures from the census reports:

Year	Capital invested	Value of products
In 1880.....	\$210,504,704	\$210,950,383
In 1890.....	354,020,843	207,981,724
In 1900.....	497,240,157	330,200,320
In 1905.....	613,110,655	450,497,704

The exports of American raw cotton continue to increase, as shown by the following treasury department figures for three fiscal years:

Year	Bales exported.	Value.
In 1903-04.....	6,000,194	\$370,811,246
In 1904-05.....	8,337,994	370,995,014
In 1905-06.....	7,050,856	401,005,911

The exports of manufactures of cotton amounted in value as follows: \$22,403,713 in 1903-04, \$10,666,080 in 1904-05, and \$52,944,033 in 1905-06.

* * *

COTTON manufacturing under the factory system originated in Lancashire, England, which district to-day occupies in the cotton spinning and manufacturing trade of the world relatively the same position as is held by the "cotton belt" of the United States in the production of the raw material. This gigantic industry is concentrated within an extreme radius of thirty miles of the city of Manchester. Notwithstanding the growth of the cotton industry in other parts of the world, and in spite of opposition, the Lancashire district seems determined to retain its position of leadership. At the beginning of 1906 there were working in the district 48,322,684 cotton spindles, of which 2,430,367 had been put in during twelve months, and there were under construction or projected 60 new spinning mills, intended to contain 8,026,356 spindles. It is predicted that by the end of the current year England will have close to 60,000,000 spindles. Every branch of the British cotton trade has been very profitable of late, and this has led to unprecedented activity in cotton mill building. The advantages of specialization are apparent in the English cotton industry, in the economical production of goods to a degree not excelled perhaps in any other industry. The British home market is an important one, but her exports of manufactured cottons are enormous. For instance, £10,107,222 to China and Hongkong in 1905, over £21,000,000 to India, and £2,000,000 or more each to the United States, Turkey, Egypt, Dutch East Indies, and Argentina. The total imports of all kinds of cotton piece goods from Great Britain for three calendar years footed up:

	1903.	1904.	1905.
Square yards.....	5,157,310,000	5,591,819,700	6,198,199,000
Value.....	£55,297,273	£64,078,237	£70,817,032

* * *

THERE were manufactured in the cotton mills of India in 1905-06 about 562,000,000 yards of goods of all kinds, and the production of hand looms in the homes of natives is estimated to be more than double this amount. There were imported 1,297,612,600 yards of cotton cloth of all kinds.

* * *

THE cotton goods industry in Japan, while not large as compared with that of some other countries, is very profitable and is constantly growing. During the war with Russia the larger part of the cotton goods required for the army was made by native mills, and this gave an impetus to the industry the effect of which

is shown in its continued growth. During the first half of 1906 the cotton mills of Japan used 200,574,662 pounds of raw cotton, of which the greater quantity was supplied by India, and the remainder by China and the United States in the order named. The number of spindles in operation was lately reported at 1,371,730. There are 40 companies manufacturing cotton goods, and this is the most important single industry in the empire.

* * *

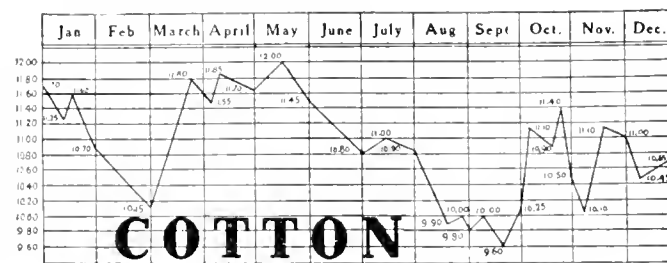
TEXTILE goods, mainly cotton, form the most valuable item in the import trade of South and Central America taken as a whole, with the exception of manufactures of iron and steel. The chief imports of cottons generally are of English and German origin, the former showing a marked tendency to decrease in recent years. The opinion is generally prevalent among South American importers that the United States is not getting as large a share of this trade as the excellence of American goods would warrant, owing to the lack of efforts of our manufacturers to cultivate this trade.

* * *

THE London *Financial Times* publishes the following statement: It is officially stated in Alexandria that the Egyptian cotton crop is likely to be much larger than last year, the estimates being 6,500,000 to 6,750,000 cantars (cantar, 124.7 pounds). The growth last season was a little below 6,000,000 cantars. The American crop is not unlikely to be not far off the record output of last year—namely, 13,250,000 bales. Then East Indian cotton will be in larger supply, and the crops in South America are likely to be greater than in 1905-6.

* * *

The chart herewith illustrating the range of cotton prices during the year 1906 is reproduced from the *New York Times*, through the courtesy of its editor:



WATERPROOFING PROCESSES.

WHILE excellent results have been attained in the waterproofing of silk fabrics, a certain difficulty has been experienced in rendering the goods actually water repellant. In other words, while the fabric may be made impervious to water, an inconvenient amount of water too often adheres to the outer surface in case a waterproof silk garment is exposed to the rain. A patented process for overcoming this condition is controlled and operated by the Silk Textile Waterproofing Co., Inc., Nos. 153-155 Lafayette street, New York. The company not only waterproof silks, and velvets as well, but they also treat by their process a large quantity of fabrics already proofed in the ordinary manner, and sent them by the trade for a finishing treatment. The registered trade mark of the company referred to consists of the word "Freecspot."

* * *

A METHOD or process of treating fabrics to render them waterproof, patented by Waldo Spaulding, of East Pepperell, Massachusetts, consists in first forming a solution of 10 parts casein, 80 parts water, and 0.4 parts borax by weight. The fabric is saturated with this emulsion, then subjected to the action of formaldehyde, and dried. The fabric is next hydrated, and then finally dried.

New Goods and Specialties in Rubber.

KLINGTITE QUICK HOSE COUPLER.

THIS device for quickly coupling hose requires no washers, clamps, bands, or wires, both male and female ends being attached to the hose. To insure an easy and positive connection one end may be quickly slid over the other. Besides the ease with which it can be adjusted, a principal feature in its favor is that leakage is impossible. This is accounted for by the fact that all the joints become tighter as the pressure



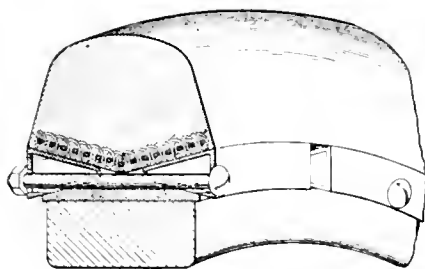
Patent applied for.
QUICK HOSE COUPLER.

increases. In connection with compressed air and vacuum lines, and also wherever it is necessary to make and break a line frequently, this style of coupling is distinctly advantageous. In addition to the distinguishing features of this coupling already referred to, means is provided to prevent uncoupling of hose by any external lateral strain greater than the internal pressure, and means are also provided for attachment to standard hose ladders and standard nozzles. [James Manufacturing Co., Denver, Colorado.]

MIDGLEY'S NEW TIRE.

A VEHICLE wheel tire of rubber, invented and patented by Thomas Midgley, is illustrated here. The wheel presents an inclined surface on its periphery. The resilient tire has imbedded in its base a plurality of interlaced helical coils of wire and an

inextensible circumferential wire. A cut wedging ring is disposed between the inclined outer surface of the periphery of the wheel and the base of the tire, and means is provided for forcing the wedging ring home to secure the tire in position on the



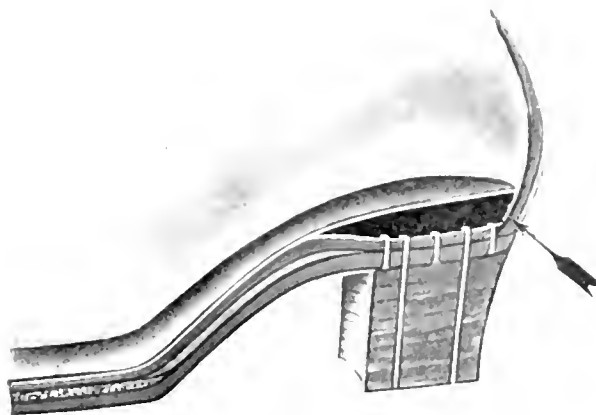
MIDGLEY'S PATENT TIRE.

wheel. Or the wheel may be so made as to present two oppositely inclined surfaces on the rim, and the tire with slightly divergent surfaces, a pair of overlapping wedging rings being employed, as shown in the cut.

CUSHION HEEL SEAT.

THE Cushion Heel Seat differs materially from many of the improvements that have made pedestrians doff their caps to clever inventors who have made walking so much more a pleasure and robbed the walker of that tired feeling that so often overtakes him at the end of a day, sometimes, even when distances covered were not long. When one fertile brain projects a new method of making locomotion (or anything else for that matter) easy, it is only the beginning of the end for such a succession of improvements follows the original that it makes one wonder what and which to choose. It is certainly this way with cushion heels, many of

which are good. The particular one in question, however, is not made for it during the process of its construction. It is not to destroy any of the measurements of the foot. The cushions are placed inside the shoe. That they are placed on the cushion between the foot and the sole of the shoe.

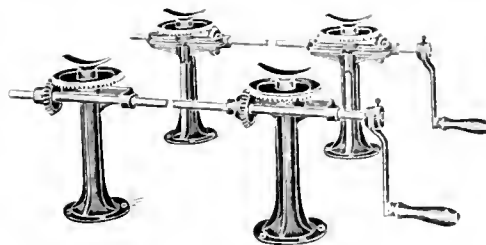


CUSHION HEEL SEAT.

impossible for any nail or tack to work up and into contact with the foot, gives another reason for its popularity. This assured smoothness adds a decided measure of comfort, and leaves little ground for doubt as to the pleasure that such a heel cushion must bring. This is especially true when it is considered that the Future Shoe, to which these improvements belong, is built on up to date lasts and from the best materials. [Bemis & Wright, Lynn, Massachusetts.]

THE "SPRINGFIELD" AUTOMOBILE LIFT.

It is conceded by automobile owners and manufacturers that in order to get the best results and the longest term of service from tires they should be rested when not in use. The weight of the car is thus removed and at the same time the cars are kept from the oily floors. Many who appreciated the advantage to be derived from the care bestowed upon their tires are unable to do as they would on account of limited space. This difficulty has been overcome in the "Springfield" lift, which can be used under any car and can be arranged in an exceedingly short time. The lifting mechanism is that of a power screw, of triple square thread screw, chased on 7/8-inch cold drawn steel. These stand in pairs, one at each side of the car, and the two screws composing a pair are geared together by parallel pin skew gears and crank shaft. While these screws are joined together in pairs, they are entirely independent of each other and any pair of the other pair. That is to say, one wheel of the car can be raised while the others remain on the floor, or all four wheels can be made to rise at exactly the same time. When the screws are run to their extreme height of 7 inches in a convenient room for making repairs from under the car. [Bemis & Wright Co., Springfield, Ohio.]



AUTOMOBILE LIFT.

MEDICATED RUBBER GARMENTS.

Dr. Jeanne Walter, the father of medicine, said, more than 2000 years ago: "Corpulence is not only a disease itself, but is also the har-binger of others." With this thought in mind Dr. Jeanne Walter has invented and patented Medicated Rubber Undergarments for the reduction of superfluous flesh. These garments are made of pure india-rubber, medicated according to a private formula of Dr. Walter's. They produce the desired re-sults by stimulating the circulation, opening the millions of pores of the skin, and so encourage elimination of the waste products of the body by the natural channels, without effort and with-out the denial of the good things of life. In-juries after effects are said, too, to be unknown. Rather than being an im-pediment to action, the garments when worn in-crease the pleasures and benefits of exercise. This, of course, is due to the fact that the system is relieved of the burden of unhealthy fat and re-stored circulation takes place. When these new conditions have been taken on the skin be-comes firm and the complexion clear. Gar-ments for the reduction of superfluous flesh



HEAD BAND



LONG JACKET.

for different parts of the body may be procured, including corset belt, corsage, Eton jacket, hip belt, jacket and pants. The illustrations show a long jacket, rubber garments for men, and a head band. The jacket, while its primary purpose is not forgotten, is a remedial agent in reducing a too high temperature and encouraging the elimination of poisonous matter from the system in case of pneumonia, asthma, or other congestive conditions of the lungs. The garments for men illustrate the belt for reducing corpulence, the knee bandages and ankle bandages. The support which these bandages give afford a relief for rheumatic affections and stiff-ness of the limbs otherwise induced. The head band and chin strap is a specific for the unwelcome double chin. This is to be worn at night and is used for its medicinal properties as well as for restoring the lines of the face. The band across the forehead removes wrinkles and relieves headache. [Dr. Jeanne Walter, No. 55 West Thirty-third street, New York.]

RUBBER CEMENT OR PASTE.

GUMMINE, glycerine, white gum, and rubber constitute the body of a paste and cement whose adhesive properties are indisputable. It is made in flat cakes of convenient form and size, and requires no melting, simply having to be moistened as it is used. For china which is not to be subjected to constant applications of hot water, is it said to give excellent results when used for repairing, and for mending torn papers, a seam so neat may be made that it almost defies detection. While this is used by many as a substi-tute for paste, mucilage, glue, etc., its chief claim to merit is the absolute neatness and security with which a torn leaf may be mended without the use of an underlay. [Lawrence & Thomas, Columbus, Ohio.]

A NON-SLIPPING CUSHION TREAD.

The detachable head for boots and shoes patented by Nahum I. Busby, of Boston, is designed to present an anti-slipping sur-



GARMENT FOR MEN.

face that will be yielding when in use, the yielding and resilient use being produced by other means than the resilient quality in-herent in the material.

The sole consists of an in-closing outer rim or wall of solid rubber, adapted to receive stitches or nails for attaching it to the sole. Located within and filling the space within this rim or wall is a tread surface, formed of a mixture of flexible rubber or cement and a gritty substance, the same being oval or cup shaped, to provide a pro-jecting tread surface and to leave an intervening space between it and the shoe sole. Located in this space centrally and trans-versely of the sole is a bridge, formed of clear rubber and cemented or otherwise attached to the inner surface of the tread portion. The bridge is formed with two transverse raised portions, forming an intervening saucer shaped space, and has a broad area of contact with the tread that gradually merges into narrow lines of contact with the shoe sole. In respect to a heel tread, the construction is substantially the same. In use the anti-slipping treads receive the whole wear, the bridges forming not only a reinforce for the treads, but also acting to additionally cushion the tread.



NON-SLIPPING SHOE TREAD.

CLOTH LINED RUBBER GOODS.

THERE is a demand now for the cloth lined water bottle, syringe, and combination that ensures a future popularity of which the present demand is but the beginning. The "Wearever" is one of the makes that is much in favor, it being light, strong, and durable, a trio of qualities early looked for in the purchase of a water bottle. The Wearevers are made with smooth or ribbed surface and come in maroon, non-blooming and white. The foun-tain syringes have tubing to match and come with soft finish, while the combination water bottle and syringe have the rapid flow attachment, also to match. These goods bear the guarantee of The Faultless Rubber Co., by whom they are manufactured at Ashland, Ohio.

SWEDISH MASSAGE AND BATH BELT.

AN aid to health and beauty is said to be the Swedish Massage and Bath Belt. It is made of rubber sponge, and running through it is red rubber belting extending beyond the ends of the belt, and to its ends are attached black hard rubber rings. These are of a convenient size for holding while applying the belt for fri-ction creating purposes, in which lies the secret of the claims that



MASSAGE AND BATH BELT.

are made for it, for use either in connection with the bath or in the massage movements. It is convenient in size, easy to manipu-late, and has the advantage of bringing both hands and arms into action, thereby adding to the artificial means of gaining health and beauty by exercise. [The Hanover Rubber Co., Hanover-Limmer, Germany. George Borgfeldt & Co., sole agents for the United States and Canada.]

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED DECEMBER 4, 1906.

- N**O. 837,326. Vehicle wheel. [Involves a solid rubber tire, the inner surface of which is a pneumatic cushion.] W. J. Mitchell and J. R. Mitchell, assignors to The Mitchell Punctureless Pneumatic Tire Co., all of Lynn, Mass.
- 837,373. Device for holding children in bed. D. C. Akers, assignor to The Child Bed Co., all of Lynn, Mass.
- 837,399. Waistband [with rubber bands]. R. L. Gooding, Bridgeport, Barbados.
- 837,455. Cushioned foot plate [for guns]. A. J. Durcan, Clinton, Mo.
- 837,458. Pneumatic tire [with two inflatable tubes, one within the other]. H. C. Fairchild, Passaic, N. J.
- 837,459. Vacuum irrigator. C. O. Harrington and T. Watson, Sealy, Tex.
- 837,538. Hose coupling. John H. Bury and E. H. Zwanger, Allison, Neb.
- 837,578. Suspenders. C. Ludolph, assignor to C. K. Hagelorn, both of Berlin, Ontario.
- 837,709. Vehicle tire. [Provided with a metal tire, having an elastic tire beneath.] J. J. McIntyre, Hartford, Conn.
- 837,749. Insulator. J. Steinberger, New York city.
- 837,759. Rubber sponge. [Provided with a cavity adapted to receive a cake of soap, a passage leading from the cavity to the outer surface of the sponge, and a fastening device within the cavity for securing the walls together.] G. M. G. Weston, Newton, Mass.
- 837,772. Safety valve for pneumatic tires. W. S. Arnold, San Francisco.
- 10,953. Rubber and minor plastics not otherwise classified. Hood Rubber Co., Boston. Crossed arrows. For marking rubber boots and shoes.

ISSUES DECEMBER 11, 1906.

- 837,924. Combined clothes washer and wringer. [Provided with rubber facings for the presser bed and presser plate, instead of elastic rollers.] O. Gutar, Columbia, Mo.
- 837,972. Horseshoe calk. T. W. Simmons, Martinsville, Ohio.
- 837,993. Surgical instrument. T. W. Williams, Milwaukee, Wis.
- 838,030. Vehicle wheel [with pneumatic cushion tire]. E. Keyser, Poughkeepsie, N. Y.
- 838,103. Car and air brake hose coiling. W. W. Gordon, Washington, D. C.
- 838,166. Folding wringer. H. G. Burrows, assignor of one-half to W. H. Douglas, both of Fall River, Mass.
- 838,202. Machine for winding the [rubber thread or tape] cores of golf balls. M. McEld, Edinburgh, Scotland.
- 838,207. Hose rack. C. Nohring, Cincinnati.
- 838,208. Adjustable hose rack. *Same*.
- 838,210. Needle connection and valve opener [for fire valves]. W. S. Stanley, assignor to The Bridgeport Brass Co., both of Bridgeport, Conn.
- 838,230. Milking machine. L. Burrell, assignor to D. H. Burrell & Co., both of Little Falls, N. Y.
- 838,247. Safety tread. E. P. Farmer, Southwest Harbor, Me., assignor to Protective Tread Co., Boston.
- 838,284. Golf club [having head provided with a resilient mass of rubber and feathers]. C. T. Thompson, Philadelphia, and E. P. Mitchell, Laurel Springs, N. J.
- 838,334. Colotomy truss. E. E. Hyatt, Birkenhead, England.
- 838,419. Treatment and utilization of waste vulcanized rubber and chlorite. [Consists in pulverizing the material to be treated, adding a stiffening material, such as particles of mica or asbestos fibres, which have been previously treated with a binding material, and subjecting the mass to high pressure at a high temperature.] A. de Karavodine, assignor to B. Roux, both of Paris, France.
- 838,434. Respirator. J. Morgan, Randfontein, Transvaal.
- 6,083. The Safety Insulated Wire and Cable Co., New York city. A circle having the words *Seamless Waterproof* written around it in the inside and in the middle of the circle the word *Saffron*. For insulated electric wire and cable.
- 6,084. The Safety Insulated Wire and Cable Co., New York city. A circle having the words *Seamless Rubber Insulations* around it, and the word *Safety* inside. For insulated electric wire and cable.
- ISSUED DECEMBER 18, 1906.
- 838,708. Gaiter. Robert Gorton, Newton, Mass.
- 838,751. Overshoe. A. E. Roberts, Norwalk, Ohio.
- 838,756. Apparatus for reclaiming waste rubber. [Particularly for remov-

- ing sand, silt, and other foreign matter from the surface of waste rubber.] E. R. Sollday, Peoria, N. Y.
- 838,824. Tire. [The tread of the tire is formed by a series of transverse supporting ribs connected by a series of longitudinal ribs, the ribs comprising a series of strands telescoped together, the strands being held together by collars surrounding the inner ends of the strands, the collars being casing covering the tube.] Address of inventor, E. R. Sollday, Peoria, N. Y.
- 838,838. Tire. [With self-inflating device.] Address of inventor, E. R. Sollday, Peoria, N. Y.
- 838,868. Vehicle wheel [with self-inflating device]. Address of inventor, E. R. Sollday, Peoria, N. Y.

Trade Marks.

- 18,914. The Stork Company, Boston, Mass. The word *Stork* for marking hats, caps, bonnets, bathing caps, and other pocket head coverings of textile fabric, etc.
- 10,950. Mohr-Rubber Co., New York city. An arrow, the shaft of which is a diamond-shaped outline. For marking shoes, boots, and garments.
- 10,951. Hood Rubber Co., Boston. An arrow, the shaft of which is a diamond-shaped outline. For marking shoes, boots, and garments.
- 10,952. Mercer Rubber Co., Trenton, N. J. The words *Red Brand* for marking rubber belting, hose, and packing.
- 10,953. Whittely Exercise Co., New York city. The word *Whittely* for marking elastic cord exercising devices.

ISSUED DECEMBER 25, 1906.

- 839,008. Means for securing flexible tires to motor cars and like wheels. Alfred Birchall, Liverpool, England.
- 839,013. Weather strip. E. J. Schwartz, Villa Grove, Ill.
- 839,014. Blanket for lithographic and other presses. T. C. Sherman, assignor to The Trinity Press Co., both of New York city.
- 839,060. Flexible connection. Andrew Benson, Chicago.
- 839,111. Weather strip. Frank Nunning, Jr., assignor to V. E. Tischi, both of Cincinnati.
- 839,132. Cushioned horseshoe. W. R. Smith, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
- 839,537. Holder for fountain pens. D. W. Beammel, Brooklyn, N. Y.
- 839,544. Suspenders. B. T. Brandt, Detroit, Mich.
- 839,553. Combined yoke and hose supporter. A. H. Cohn, Larchmont, N. Y.
- 839,626. Device for inflating the pneumatic tires of vehicles. Carl Nielsen, Copenhagen, Denmark.
- 839,672. Swimming machine. John Stuh, New York city.

Trade Marks.

- 22,886. Mercer Rubber Co., Trenton, N. J. The word *Red Brand* for marking sheet rubber, rubber valves, and rubber linings.
- 23,290. William M. Fox, New York city. The word *Red Brand* for marking rubber waterproofed fabrics in the piece.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the time of the Application, which in the case of those listed below was 21,000.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 28, 1906.]

- *16,016 (1905). Pertumed rubber. [Powdered perfumes are mixed with pure rubber and vulcanized, for making highly elastic sheeting for dams for dentistry and dress shields.] Trum Rubber Co., New York.
- *16,017 (1905). Hose supporters. A. L. Seale, Cleveland, Ohio.
- *16,077 (1905). Rubber-soled boots. [Layers consisting of rubber, canvas, textile fabric, a middle sole of cotton duck treated with a layer of raw rubber, between which are placed a middle supporting layer preferably brass, and a layer of rubber, the edges being joined by the rubber binding. An outsole of unvulcanized or partially vulcanized rubber, having preferably a thin top layer of raw rubber, is secured to the foot in a vulcanizing mold, the vulcanizing causing the various parts to adhere firmly.] G. F. Butterfield, Boston, Mass.
- 16,089 (1905). Vehicle wheels. [To prevent punctures, a series of wedge-shaped wood blocks are fitted between the outer covering and the tire. They are spaced by ridges under the tread of the cover by means of buffer pads.] J. W. Hornsby and D. Roberts, both of Grantham, Lincolnshire.
- 16,119 (1905). Vehicle wheels. [To prevent puncture, the tire is made with recess formed by securing to it strips of steel or other suitable

- 16,110 (1905). The air tube is protected by a strip of canvas or rubber secured at its edges to the cover. J. Chambet, Geneva.
- *16,110 (1905). Fountain pens. W. J. Ferris, Stamford, Connecticut.
- *16,167 (1905). Road sweeping machines. [Means provided to prevent dirt from clogging the bearings of the conveyor, and the pan to receive the sweepings from the brush is made flexible to avoid injury in consequence of the machine moving backwards. The plates of the pan extension are made of rubber.] C. K. Pevey, Worcester, Massachusetts.
- 16,286 (1905). Combined hose reel and sprinkler. J. Mellings, London.
- 16,411 (1905). Non-skid tire cover of leather. W. H. Ellan, Ayrery, Surrey.
- 16,411 (1905). Heel protector. J. H. Hammond, London.
- *16,501 (1905). Vehicle wheels. Pneumatic tire. A. M. Johnson and T. Ryan, Maysville, Kentucky.
- 16,508 (1905). Non-slipping stud for pneumatic tires. R. K. Evans, London.
- 16,528 (1905). Wheel rim. [A rim for facilitating the removal of tires has one or both side flanges hinged so as to be capable of being turned out of the plane of the wheel.] T. J. R. Clarkson, Aston Manor, Warwickshire.
- ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 5, 1906.)
- 16,555 (1905). Corset [with elastic abdominal girths]. D. Kops, New York.
- 16,568 (1905). Heel protector. J. E. Davidson, Toronto, Canada.
- 16,601 (1905). Pneumatic tire. W. E. Rogers, Portsmouth.
- *16,654 (1905). Means of attaching elastic tires to rims. R. Mulholland, Dunkirk, New York.
- 16,691 (1905). Rubber compositions. [Rubber is mixed with any kind of metal powder and sulphur, and vulcanized. The product is used for tires, stail treads, horse shoes, horse shoes, heels, and spindles for looms, and for covering floors. The rubber is dissolved before mixing, in naphtha or other like fluid.] C. Marter, London.
- 16,722 (1905). Bust supporter. J. Bree, Charlottenburg, Germany.
- 16,795 (1905). Studs for armoring motor car tires. H. Bremer, Neheim-on-the-Ruhr, Germany.
- 16,822 (1905). Pneumatic tire. [Protected by a segmental tread of hardened steel, the segments being secured by transverse bolts passing through the tire and side flanges.] J. H. Goodman, Blackwell.
- *16,907 (1905). Hose pipe support. J. E. Mahburg, San Francisco, California.
- *16,908 (1905). Pocket pencil holder. [Described in THE INDIA RUBBER WORLD, January 1, 1907—page 117.] W. H. Vango, Akron, Ohio.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 12, 1906.]
- 17,029 (1905). Vehicle wheel. [Buffer springs are mounted between the rim and a cushion of rubber, lateral play being prevented by plungers working in bushes against the action of springs.] W. Kische, Hannover, Germany.
- *17,096 (1905). Eraser holder. E. W. Hayes, Detroit, Michigan.
- 17,132 (1905). Golf ball. [Formed with an inflated or solid elastic rubber core which is kept in position by internal unyielding projections of celluloid or other hard material extending upwards from the outer part.] J. A. I. Nixon, Dundee, Scotland.
- 17,132A (1905). Golf ball. *Same*.
- 17,170 (1905). Submarine vessels. [A rubber ball closed at the top by a cover is used as a float whereby communication is established between a submerged submarine vessel and the surface of the water. Tubes pass through and are secured to the cover, one being used for telephone wires and the other as an air supply pipe.] F. A. Smith, Croyden, Surrey.
- 17,186 (1905). Golf ball. [Made by winding into shape a tape consisting of an amalgamation of rubber and fine fibrous material. The ball is coated with a solution of gutta-percha which may also be mixed with fibrous material, and the solvent is driven off by heat and the outer shell molded.] R. A. Morris, Stockton Heath, Warrington.
- 17,227 (1905). Springs. [The rubber blocks used for buffers on railway trains, drawbars, etc., are provided with spaces into which the substance of the rubber can flow under compression, thus avoiding excessive gripping of the drawbar and the abrading action of the metal disks.] C. H. Gray, Silvertown, Essex.
- 17,258 (1905). Cover for pneumatic tires. [A tire fabric made from threads consisting of light, flexible, metallic chains sheathed with cotton or other textile, proofed with rubber or covered with a wrapping of raw rubber.] C. M. Gantier, London.
- 17,268 (1905). Elastic tire. [India rubber cords wound spirally in layers about a central core of hard rubber, the successive layers being wound in different directions. Projections on the core intersect the coils and prevent creeping of the elastic body which is enclosed in a cover crimped to engage the corresponding corrugated surface of the rim.] A. W. Carpenter, London.

- 17,336 (1905). Pneumatic tire. [A puncture preventing layer of cork is interposed between the outer cover and the air tube. The cork is cased with canvas and solutioned to the cover.] T. Hart, Cambridge.
- *17,396 (1905). India rubber composition [for withstanding the action of high pressure steam, or for use as an acid proof or electric insulating material, consisting of a mixture of rubber, fibrous asbestos, sulphur, and litharge, to which are added pore filling materials, such as zinc, iron oxide, etc.]. F. M. Ekert, Ashland, Ohio.
- 17,452 (1905). Regenerated rubber. [Vulcanized rubbers are dissolved in resin oil obtained by the distillation of colophony; the mass is filtered and the rubber precipitated by means of a ketone.] J. Neilson, Linden, Germany.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 19, 1906.]
- 17,526 (1905). Pneumatic tire. [Made non-skidding by a leather backing in which wire staples are inserted.] G. and C. Sturgess, Mablethorpe, Lincolnshire.
- 17,552 (1905). Heel protector. T. Spedding, Hartlepool.
- 17,626 (1905). Elastic tire. [A series of rubber blocks fitted in metal boxes, with or without supplementary metallic or other springs, are fitted in a channel rim and threaded on a chain which is adjustable circumferentially.] F. St. G. Caulfield, Bourne End, Buckinghamshire.
- 17,629 (1905). Vacuum cleaner. A. G. Brooks, London.
- *17,633 (1905). Horseshoe pad. W. A. Rupert, Mercer, Pennsylvania.
- *17,679 (1905). Electric couplings. [For galvanic batteries in use where the vibration is great. Washers compressed by the binding screw when in use.] W. Mills, Elizabeth, New Jersey.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 364,387 (Mar. 17, 1906). Genillon. Spring wheel.
- 364,420 (Mar. 20). P. Lamure. Spring wheel.
- 364,445 (Mar. 20). E. Giraud. Spring wheel.
- 364,556 (Mar. 24). Faesen, Dentz & Schmann. Solid tire.
- 364,578 (Mar. 31). Nivet. Fabric weaving machine.
- 364,824 (Apr. 2). E. Teppet. Elastic tire.
- 364,928 (Apr. 5). C. Linessier. Tire fabric.
- 364,922 (Apr. 5). B. C. Seaton. Elastic tire.
- 365,029 (Apr. 7). Cuinct et Panze. Skid tread.
- 365,114 (Mar. 5). Fleury. Puncture proof tire.
- 365,074 (Apr. 10). Société Houry et Fillet-Brohy. Wire insulation.
- 365,047 (Apr. 8). P. Bergsine. Rubber substitute.
- 365,023 (Apr. 7). E. Muller. Tire vulcanizer.
- 365,216 (Apr. 13). P. Boucher. Elastic tire.
- 365,347 (Apr. 17). Brandin. Detachable rim.
- 365,354 (Apr. 17). Staub & Co. Tire protector.
- 365,357 (Apr. 18). E. Massot. Elastic tire.
- 365,389 (Apr. 18). Société Michelin et Cie. Detachable rim.
- 365,416 (Apr. 19). Société Michelin et Cie. Scheme to prevent deflation of pneumatic tires.
- 365,418 (Apr. 19). E. Gaillard. Spring wheel.
- 365,373 (Mar. 20). Delatour fils. Soft rubber stop cock.
- 365,532 (Apr. 24). E. R. Soudas. Spring wheel.
- 365,487 (Apr. 23). A. Bourdes. Extracting rubber from plants.
- 365,561 (Apr. 24). H. Levy and T. Nathan. Rubber heel.
- 361,603 (July 3, 1905). A. E. Vincent. Method of collecting benzene vapors, given off during certain industrial processes.
- 365,730 (Apr. 28, 1906). E. B. Killen. Rubber tire.
- 365,941 (May 5). G. Chapelle. Tire protector.
- 365,952 (May 7). E. L. Rousseau. Tire protector.
- 365,972 (May 7). J. A. Swinehart. Solid rubber tire.
- 366,008 (May 8). J. Hebling. Elastic tire.
- 366,013 (May 8). H. F. Marie. Spring wheel.
- 365,809 (May 3). Miss E. Thuillard. Corset with rubber threads.
- 366,206 (Apr. 6). Talleyrand-Perigou de Sagan. Removable rim.
- 366,191 (Jan. 31). E. Luserna di Rora. Synthetic rubber.
- 366,240 (May 16). V. Labour. Composition for tire covers.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

In a report on the British East Africa Protectorate, the United States special agent, Mr. Raymond F. Crist, regards the prospects most favorable for the development of Uganda, now well provided with transportation facilities through the completion, by the government, of the Uganda railway, at a cost of \$30,000,000. This railway reaches important sources of native rubber, and Mr. Crist finds that rubber is being planted to a considerable extent, the Ceará species (*Manihot Glaziovii*) being regarded with special favor.

VULCANIZING RUBBER BOOTS.

THE illustration relates to a recently invented apparatus for use in vulcanizing rubber boots and shoes. The invention covers the combination of a heating box, having a mold in its upper portion; a holder or frame composed of sections, each of which is provided with two forward projections, the one connected to the other by means of hinges, and the latter hinged to a part of the heating box; the rear portion of the frame or holder having retaining projections, a clamping lever to engage said projections, and having both sliding and pivotal means; and mechanism supported by the box at an elevation above the latter and provided with means for instituting a downward pressure on the last of the boot or shoe to be treated. The patentee is Jonathan R. Austin, of Mishawaka, Indiana.

A patent has been granted in the United States and it is understood that applications are pending in other countries.

A GOLF BALL WINDING ROOM.

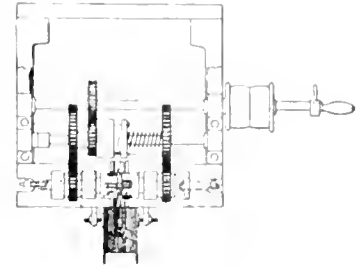
WHEN the Haskell golf ball—the first of the wound rubber core type—was first brought out, the winding had to be done by hand. The utmost accomplishment of an expert worker under such conditions was three balls per day. The prospect of a large demand for the new golf ball led to manufacturers to experiment with machinery for winding the cores, with the result that a machine was perfected capable of winding 700 feet of stretched rubber cord for a Haskell core in three minutes. An illustration on this page gives a view of the interior of the winding room in the golf ball department at the factory of The B. F. Goodrich Co. (Akron, Ohio). At the time of the taking of this view the capacity of this room was 18,000 golf balls in one day; the capacity has since been increased.



HASKELL GOLF BALL WINDING ROOM.

GOLF BALL WINDING MACHINE.

THE accompanying illustration relates to a machine for winding thread or tape of India rubber for forming the cores of golf balls, invented by Martin McDavid, of Philadelphia, S. S. S. S. The device involves mechanism which imparts to the core motion in three directions—(1) a rotary motion about a longitudinal axis, and also rotary motion (2) about axis at an angle to one another, and (3) to said longitudinal axis, as to wind the tape or thread evenly all round the core as it grows in size. The whole comprises, in combination with horizontally arranged rotating shafts, means for rotating the shafts, gripping rollers on the shafts for holding the core, and means for actuating the gripping rollers so that they may revolve the core in different directions while it is being rotated by the shafts. This invention is the subject of United State patent No. 838,262.



GOLF BALL MACHINE.

FOR CLEANING WASTE RUBBER.

A NEW apparatus for the removal of sand, metal, or other foreign substances from waste rubber, preliminary to a reclaiming process, is illustrated on this page. It comprises, in the first place, a trough for containing water, together with revolving members carrying blades or flights, working in proximity to the bottom of the trough, for the purpose of moving stock through the trough. These members are so arranged, in relation



SOLLIDAY'S WASTE RUBBER APPARATUS.

to each other, as to leave spaces between them, at the bottom of the trough, for the deposit of the sand, metal, etc., the blades of one member moving in the opposite direction to the blades of the other member adjacent to it. The stock is finally delivered from the trough by means of an endless flight conveyor. The inventor, to whom a United States patent has been granted, is Edward R. Solliday, of Trenton, New Jersey.

NO CLOTHES WRINGERS IN GREECE.—The United States consul at Athens, Mr. George Horton, reports that there is only one first class steam laundry in Greece, and that all other laundry work is done in very primitive fashion. He thinks that American wringers could be introduced there, if such a thing as a permanent exhibition of American goods existed at Athens.

MR. HERBERT WRIGHT, of the Ceylon Civil Service, and whose studies of the "Para rubber" tree have been of distinct value to the planting interest, is spending a year on leave in England, after which it is understood, he will join the agricultural department of India at Calcutta.

A NEW feature in the American footwear trade this season is the demand for overshoes made to order. Many women are wearing shoes with rather long, pointed toes, and to get an exact fit overshoes are ordered to measure.

Trade Topics in The Dominion.

RUBBER CONSOLIDATION IN CANADA.

THE all absorbing topic in rubber circles at the present moment [says *The Canadian Shoe and Leather Journal*] is the amalgamation which has recently been consummated between the Canadian Rubber Co., the Granby Rubber Co. and the Maple Leaf Rubber Co., under the name of the Consolidated Rubber Co. There are diversities of opinion as to just what effect the consolidation will have upon the rubber interests of the country. A goodly number contend that it will be in the best interests of all concerned, having a steadying effect upon the trade which will redound most beneficially alike to manufacturer, dealer, and wearer. On the other hand, there are those who can see nothing but demoralization in what they regard as an attempt to corral the entire rubber trade of the country.

Then again, there are those who hint that the United States Rubber Trust is behind the whole transaction, and that they are manipulating things so as to gain control of the rubber interests of both Canada and the United States. It is said that the United States Rubber Co. now virtually control the rubber supply market and could very seriously menace the rubber shoe industry of Canada if they chose to curtail the supply of raw material. Most of these rumors are very vague and wild and without any apparent foundation.

The consolidation of the rubber interests is not a child of to-day; for some time past a few of the leaders in the industry have been working to that end, not because of increased dividends that were likely to accrue, but because they were convinced that the best interests of the trade and consumers would be conserved by such a union. It is well known that the greater the capacity of the plant the cheaper the goods can be turned out, so that the consumer ought to reap a benefit from consolidation by getting cheaper rubbers. Any attempt at a combine to "hold up" the consumer would no doubt soon be thwarted by the Government in the removal of the duty which now protects the industry.

The talk about the United States Trust controlling the rubber interests of Canada is just so much gossip. Under present tariff conditions the rubber manufacturers of Canada are receiving a fair return for their labor, and it is most unlikely that they would jeopardize their interests by entering into a compact with our neighbors to the South. With the constantly increasing trade, there is plenty of room in Canada for a number of large rubber manufacturing concerns, and no doubt the consolidation which has just taken place will prove to be in the best interests of the trade. With the astute men at its head, a future of unbounded prosperity is predicted for the Consolidated Rubber Co. as they are all men of large experience and exceptional business acumen.

It is also whispered that other companies have been approached with a view to uniting their interests, but that no definite arrangements have yet been arrived at, although it is said to be only a matter of time before the union takes place, as negotiations are well under way. There is also a rumor to the effect that one or two of the felt shoe companies are being negotiated with, and that there is a possibility, if not a strong probability, that there will be a combining of these two industries under the wing of the Consolidated.

So far no drastic changes have taken place in the management or policy of the various individual concerns, it being evidently the intention that each should for the present work upon its own lines. Doubtless important changes will be made before the opening of the new season involving not only economy in both production and administration, but greater effectiveness in handling the product of the various factories. The fact that the American companies will not issue their lists for a month or so is

giving the Canadian trade a little more breathing time, as they seem to follow closely American precedents as to selling policy.

DISPOSAL OF SECONDS AND OBSOLETE GOODS.

THE rubber shoe manufacturers of Canada held a conference recently in regard to the disposal of seconds and obsolete goods. After several plans had been discussed, it was agreed to handle this business through the Commercial Rubber Co., Limited. This company will receive not later than January 10 in each year lists of unsalable lines, and promptly catalogue them. The sales will be by tender, but no tender will be entertained at less than 40 per cent off gross list prices. All these goods will be "punched" before shipment. The sales agent of the company is W. S. Louson, at Notre Dame and Papineau streets, Montreal. The Commercial Rubber Co., Limited, was incorporated early in 1905, with \$20,000 capital, to engage in the rubber footwear trade. Its directors included the presidents of four leading rubber manufacturing companies, and its organization gave rise to rumors that a consolidation of the companies was intended. The Commercial company in April, 1905, bought the plant of the Boston Rubber Co. of Montreal, Limited (in liquidation), when it developed that the purpose of the company was to keep this factory out of the field of competition.

G & J TIRE PATENTS IN CANADA.

MENTION was made in the last INDIA RUBBER WORLD [page 125] to the recent expiry of a Canadian tire patent granted to Thomas B. Jeffrey. There are other patents, of later date, however, that have a bearing upon the "G & J" tires. One, in particular, issued to Mr. Jeffrey in the United States on April 28, 1896 (No. 558,950), is regarded as covering an essential feature in the clincher tires as now made, and has always figured in the suits for infringement brought by the G & J company. This patent is also in effect in Canada.

BRIEF MENTION.

THE Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, issue this notice: "To answer innumerable inquiries, we wish to state that this company is not in any way, shape, or manner, a part of, or connected with any rubber merger or trust."

The Merchants' Rubber Co., Limited (Berlin, Ontario), have opened a branch warehouse at Brantford, in charge of F. Bauslaugh & Co. This is the sixth depot, in different parts of the Dominion, for the sale of their rubber footwear, besides which the company are represented by the wholesale firm of Thomas Ryan & Co., Limited, at Winnipeg and Calgary.

The Canadian rubber footwear manufacturers report that their northwestern trade is constantly on the increase. The volume of this trade during the opening months of this season greatly exceeded that for the same period last season.

THE WELL-KNOWN DUNLOP TRADE MARK.

THERE was returned from the dead letter office, one day last week, a small, flat piece of electrotype metal, a half inch square, which had evidently been picked up in the New York city postoffice, and sent to its rightful owners in Toronto by some one who had a knowledge of trade marks in Canada. The piece of metal was the Dunlop two hands. It had been sent by the Dunlop company, enclosed in a letter, to THE INDIA RUBBER WORLD. The metal cut through the envelope, and was most likely picked up on the floor of the New York city postoffice. Some one there slipped it into a dead letter office envelope and sent it back to Ottawa, from whence it was returned to the Dunlop company as a matter of course. The incident reflects much credit on the postoffice.—*Toronto Star*

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

ALIVE business in rubber footwear has resulted from the very bad condition of the streets in the burned district. There are so few sidewalks that it is for all intents and purposes a case of walking in the street all of the time, and the mud which has gathered there will never have time to dry until the winter and spring rains are over. It is impracticable to try to get about many of these streets without rubber boots or shoes, and the local houses dealing in this line have had all the trade they could handle.

The building activity of the city is progressing rapidly, and permanent buildings are springing up on every side, so that the burned district begins to look more and more like a habitable region. Everybody is anxious to get into a permanent building as the insurance rates are beyond all reason, and it is that consideration which will drive the retailers away from Van Ness avenue to the new and permanent buildings which are being erected for them downtown.

The new factory of the Bowers Rubber Co., at Black Diamond, is now in active operation. The company had secured a large acreage, had completed plans for a modern rubber factory, and had begun work on one of the main buildings, when the San Francisco fire occurred. Then the company bent all their energies to the completion of this building, but instead of waiting to com-



TEMPORARY FACTORY OF THE BOWERS RUBBER CO.

plete all their plans, temporary corrugated iron structures have been put up. They have been working two shifts, night and day, in the rush of cleaning up accumulated orders. Work will be begun soon on the additional permanent buildings. Mr. C. H. Chase, of the Bowers company, says that the indications are that the present year will result in the heaviest country business that they have ever enjoyed.

The Sterling Rubber Co., a new concern mentioned in the last INDIA RUBBER WORLD, have taken on the Pacific coast accounts of the Seamless Rubber Co., the Bourn Rubber Co., and the Voorhees Rubber Manufacturing Co. Mr. W. Perkins, the president, and Mr. W. M. Gibson, the manager, were connected formerly with the Gorham Rubber Co., and are well and favorably known to the trade here.

"It is simply a matter of getting goods; the business is here," said the manager of the Sterling Rubber Co. "Trade has been remarkably good, and there has been plenty of business for everybody. We can dispose of goods as fast as we get them, but the getting of them is a hard matter. The delay in shipments of freight, which had only in a small way begun to be relieved before the holidays, has been almost completely choked up again, on account of the rush during the holidays, and now on account of the heavy storms, as well as a railroad strike, which has blockaded freight on the other side of the mountains. Freight cars with goods in them are backed up now in the yards by the thousands, and some of them it is impossible to get at, so that

they stay there a fortnight or more. It is a real hardship, and the dependence of the working men on the rubber trade is a real hardship with them. They are getting good wages, and they are getting good employment. The building trade here has been getting orders from all other industries, and the high wages of the building men to try that line, so that they are changing out of the rubber trade of every commodity has advanced so that the price of a pair of boots a third higher now for everybody that orders them. The building materials are still so scarce that you have to pay a cent for a piece of lumber a place as big as a cigar box, and the matter of getting goods has grown to be a nightmare with the majority of the people here.

Mr. Joseph V. Selby, Pacific coast manager of the Boston Woven Hose and Rubber Co., states that in the mechanical rubber lines business in San Francisco, and for that matter, on the entire coast, was never better than it is at the present time. He reports for the Western Mechanical Rubber Goods Association, which was organized for the purpose of protecting the interest of the mechanical rubber industry on the coast, with headquarters in San Francisco, that since the earthquake and fire there have been no meetings. But as soon as the merchants are better settled, and the important matters of getting reestablished again have become less pressing, the members propose to resume their regular monthly meetings.

The Goodyear Rubber Co. are now doing business at the same location as before the fire last year—Nos. 573-579 Market street—and which they have occupied for 35 years. They are of course in a temporary building, but good progress has been made on the new permanent building which is rising on that site. Mr. R. H. Pease, president of the company, reports business as good as at the same time a year ago, which was before the fire. Business during December (in footwear) was particularly good, on account of the rains. He says that the great trouble in San Francisco is the lack of labor; that people ought to come out from the East. The company are greatly helped in carrying on their Pacific coast business by having at Portland, Oregon, a store filling a building of six stories and basement, with 100 feet front.

Mr. Parish, of the Oakland store of the Gorham company, was lately confined to his bed for two or three weeks on account of illness. He is now able to be around again.

Henry Martine, manager of the Gutta Percha and Rubber Manufacturing Co., whose headquarters are now at Menlo Park, California, sustained very serious injuries in an automobile accident about New Year's. Mrs. Martine was with him at the time and was even more seriously injured than he. He has been gradually recovering from his injuries and has been able to be out some.

F. W. Paige, representing the San Francisco branch of Morgan & Wright, which is located in a large establishment together with the Hartford Rubber Works Co. and the G & J Tire Co., at No. 423 Golden Gate avenue, reports that conditions are excellent, collections good, and the future prospects all for prosperity. Mr. Paige returned lately from an Eastern trip. C. A. Davis, the representative of the G & J Tire Co., will start East about February 1 to visit the factory, and prepare for the coming year's business.

The Harris Rubber and Supply Co. is a new concern, recently incorporated in San Francisco. They have fitted up a new store on the corner of Polk and Turk streets, and the principal business of the company at present is handling the Goodyear tires. Mr. Harris was formerly with the Goodyear Rubber Co.

The new Phoenix Rubber Co. have got their factory started. They are operating six presses, and expect shortly to have ten at work.

Recent visitors to the Pacific coast trade were Mr. Hayes, of the Home Rubber Co. (Frenton, N. J.), and Mr. Perry, of the Pennsylvania Rubber Co. (Jeannette, Pa.).

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

At the annual meeting of The B. F. Goodrich Co., on January 1, 1907, George L. Perkins retired from the office of president. He has been gradually giving up positions of business importance with a view to spending his declining years quietly. He still retains his interest in the Goodrich company, however, and will continue as chairman of the board of directors. The officers of the company are: Bertram G. Work, president; F. H. Mason, first vice president; H. F. Raymond, second vice president; E. C. Shaw, general manager of works; C. B. Raymond, secretary; W. A. Fieger, treasurer; W. A. Means, assistant treasurer; C. C. Goodrich, general superintendent, and H. E. Joy, assistant general superintendent. The directors are Messrs. Perkins, Mason, Work, Goodrich, Shaw and H. F. Raymond and George W. Crouse.

The past year was one of unrivalled prosperity with the company. Several extensive additions to the plant were made, and others are being planned. Within the last few weeks the Goodrich company have purchased nearly \$50,000 worth of property adjoining their general offices, and will erect buildings this year which will double the office room.

The Indian Rubber Co. held their annual meeting during the month in their offices in the Hamilton building. The officers' annual reports showed the company to be in a prosperous condition, and the product sold six months ahead. It was said that this fact has made it necessary to turn down a number of large orders. Orders have been placed for machinery, which will double the capacity of the present plant at Barberton, and the officers of the company contemplate the erection of a new plant, much larger than the one used at present, in the near future. The old officers and directors were re-elected, as follows: James Christy, president; C. M. Gilbert, secretary, treasurer and manager. Directors: James Christy, Will Christy, C. M. Gilbert, J. H. Conner and C. S. Heller.

JAMES A. SWINEHART, senior member of the Swinehart Clincher Tire and Rubber Co., has returned from a European trip, and is much elated over the strides which the Swinehart tire has made in foreign countries. He closed a deal whereby all of his German patents are to be sold to a manufacturing concern in that country. H. F. Siegrist, treasurer of the Swinehart company, has resigned, and has been succeeded by Fred A. Boren, a local bank official. The company is installing a great deal of new machinery in its plant, and when all proposed improvements are completed its present output will be increased 50 per cent.

"ANBY" AUBLE, the Akron garage owner who, with W. W. Owen, of Cleveland (as chauffeur) and Fred Work, of Akron, drove an Oldsmobile from New York to Ormond Beach, Florida, in record time, is much gratified at the showing which he made. The party encountered roads which were almost impassable, and he name "Pathfinders," with which they were dubbed, fitted exactly, according to Auble. A peculiar feature about the trip is that while the machine was fitted with Diamond tires, it carried as a passenger Mr. Work, a brother of the newly elected president of The B. F. Goodrich Co., a rival concern in the tire manufacture.

The Diamond Rubber Co. will erect another new building, 320 x 150 feet and five stories high. The structure will be used to increase the Diamond company's facilities for the manufacture of automobile tires. Mr. C. E. Mathewson, the Pacific coast manager of the Diamond Rubber Co., spent a week at the factory

here when he came east to attend the New York automobile show. He reports that his company have equipped with their tires more than 6,000 of the 10,000 automobiles on the coast.

* * *

THE India Rubber Co. property, the site of a rubber factory burned in March, 1903, has been purchased by the George W. Carmichael Co., who probably will erect a furnace manufacturing plant there.

* * *

RICHARD MASON and Henry Hall, who have been employed by The B. F. Goodrich Co. for 26 years, were placed on the pension list January 1. The Goodrich company adopted this plan of retiring the most faithful of their employees two years ago.

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

THE Prudential Rubber Co., a new Trenton concern, was incorporated in the office of the secretary of state on January 21. The charter states that the company is formed for the purpose of manufacturing and dealing in rubber goods of all descriptions. The capital stock is \$125,000, divided into 1250 shares of the par value of \$100. The incorporators are Charles F. McCoy, M. A. McCoy, E. Furman Hooper, and A. A. Hooper. Charles F. McCoy is the agent in charge, and the office at present will be in the Wilkinson building. Mr. E. Furman Hooper was tax receiver of Trenton for several years, and is head of the wholesale paint house of E. F. Hooper & Co. Mr. Hooper states that at present the new company will confine its business to the selling agency line, handling mechanical rubber goods. Later it may enter the manufacturing field.

* * *

MEMBERS of the office force of the United and Globe Rubber Manufacturing Cos. served a dinner on the evening of January 3, in the Dutch room of Margerum's restaurant, to celebrate the closing of another year's business. The banquet followed the annual stock taking. The tables were handsomely decorated and the event was a most pleasant one. Those present were: Alexander H. Clarke, Aubrey Love, Samuel Cadwallader, Frank H. Van Derbeck, Jesse M. Fabian, J. Oliver Thorp, Malcolm Salter, Townsend N. Conrad, Daniel M. Lovett, Thomas A. Maguire and J. Lewis Hendricks, Jr.

* * *

THE Ajax-Grieb Rubber Co. have been granted another patent for a rubber heel and sole. The new invention is designed to meet a want long felt by wearers of rubber soled footwear, that is, the nonslipping quality. The new sole is composed of a black, tough rubber stock with a center of pure white rubber and ground cork. The cork element accomplishes the nonslipping result.

* * *

JOHN S. BROUGHTON, secretary, treasurer, and general manager of the United and Globe Rubber Manufacturing Cos., was chairman of the general committee which made a conspicuous success of the charity ball given in Masonic Temple, on the evening of January 10, for the benefit of Mercer Hospital. The ball was the leading social function of the present season. More than 700 tickets were sold and \$1,200 were the net proceeds.

* * *

WILLIAM J. B. STOKES, one of the proprietors of the Trenton, Joseph Stokes and Home Rubber companies, was re-elected treasurer of the city of Trenton by the common council, on January 1. After taking the oath of office, Treasurer Stokes named a new clerk, appointing Carl C. Kuhl, who was employed in the rubber department of the John A. Roebling's Sons Co. Mr. Kuhl resigned to take his place in the City Hall. The term of Mr. Stokes as treasurer is three years.

News of the American Rubber Trade.

ELECTRIC RUBBER MANUFACTURING CO.—ASSIGNMENT.

ON December 31 Frank P. McDermott, of Jersey City, was appointed receiver in New Jersey of the property of the Electric Rubber Manufacturing Co., Rutherford, N. J., with a bond of \$25,000, on the application of Samuel P. Robinson, Samuel D. Sherwood and Charles Reynolds, shareholders in the company. The liabilities are reported at \$15,312, and nominal liabilities at \$150,374. The company was incorporated in New Jersey in November, 1903, with \$1,000,000 capital authorized, and began operations in the latter part of 1905, making pneumatic and solid rubber tires. On January 3, Mr. McDermott was appointed auxiliary receiver for the property in New York state of the company above named, with a bond of \$5,000. The company own a majority of the shares in the Electric Rubber Co., of New York, at No. 253 West Forty-seventh street, the selling agents for the New Jersey corporation. The New York concern was incorporated at Albany January 31, 1906, with \$10,000 capital. The Electric company were supposed to be in good condition, in view of the active business in tires done by them recently. John J. Voorhees, of the rubber trade, was appointed co-receiver with Dr. McDermott on January 29, and the factory is offered for sale.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE directors of the United States Rubber Co., on January 3, declared a quarterly dividend of 2 per cent on the first preferred stock, and 1½ per cent on the second preferred stock, from the net earnings, payable January 31, to shareholders of record on January 15. The company report net earnings for the nine months ending December 31 (December partially estimated) of approximately \$3,200,176, which includes dividends amounting to \$552,247 received upon stock of the Rubber Goods Manufacturing Co.

REDUCED TRAVEL RATES TO NEW YORK.

THE Merchants' Association of New York announces that merchants' rates to the city will be in effect from Trunk Line Association territory on February 23-26, inclusive, and March 16-19, inclusive, with the customary 15 day return limit. The special rate will be, as usual, a fare and one third for the round trip. Roughly described, trunk line territory extends from the New England-New York border west to and including Buffalo and Salamanca, N. Y.; Erie and Pittsburgh, Pa.; Wheeling, Parkersburg, and Huntington, W. Va., south to the Potomac river and the line of the Chesapeake and Ohio railroad. The rate does not apply from points in New Jersey, Pennsylvania, and New York State less than 100 miles distant from the metropolis. The merchants who take advantage of these rates will register at the Association's new headquarters, The Merchants' Association Building, Nos. 66-72 Lafayette street (formerly Elm street).

DUTY ON COTTON ELASTIC BRAIDS.

CERTAIN cotton elastic braids imported at New York were assessed for duty at 60 per cent, *ad valorem*, under paragraph 339 of the Tariff Act, which relates to cotton or flax braids, "whether composed in part of india-rubber or otherwise." The importer protested, on the ground that the goods should be classified under paragraph 419, relating to "manufactures of bone, chip, glass, horn, india-rubber - - - or of which these substances or either of them is the component material of chief value - - - 30 per cent, *ad valorem*." Testimony was offered to show the component material of chief value in the articles, but the United States general appraisers at New York decided: "We do not think the question of the proper classification of these goods is to

be determined by the composition of the article, but by the india-rubber component material in the case of the goods made of cotton or other vegetable fiber." The importer, irrespective of the value of the rubber component, is precluded under paragraph 339.

A SALESMEN'S CONVENTION AT CLEVELAND.

THE third annual salesmen's convention of the Ohio Rubber Co., at the Hollenden, Cleveland, Ohio, on December 28-29, was attended by twenty-two representatives of their houses at Cleveland, Cincinnati, and Pittsburgh. A part of each day was spent in the discussion of various business topics, including the sale of hose, belting, packing, rubber clothing, raincoats, etc. On Friday evening a banquet was served, and on Saturday evening there was a theater party. The convention is referred to as the most delightful and satisfactory yet held by the employees' representatives.

FAIRFIELD RUBBER CO.

FOR nearly a year past the Fairfield Rubber Co. (Fairfield, Connecticut) have been obliged to run their plant at night, and the same busy condition continues. They have put in additional machinery and more power and enlarged their buildings. Their principal product is carriage cloth, but the coming of the automobile has led to the addition of a number of motoring accessories to their line of products. The present members of the company are: E. W. Harral, president; A. C. Wheeler, treasurer; E. M. Goodell, secretary, and Major W. W. Harral, manager, with F. D. Hotchkiss, superintendent.

NEW COMPANIES AND CHANGES.

BAKER Rubber Cement Co. have been incorporated under the laws of Massachusetts, with \$25,000 capital authorized, to succeed to the business of Charles F. Baker & Co., rubber cement manufacturers, No. 48 Lincoln street, Boston. The directors are: James H. Broughton (president), Charles F. Baker (treasurer), and Emma G. Sawtell. The factory is in Dorchester.

Archer Rubber Co. have been incorporated under the Massachusetts laws, with \$3,000 paid capital, to engage in the water-proofing trade at Milford, Mass. Calvert B. Archer, who resigned recently as superintendent of the Milford Rubber Co., is president; John T. Callahan, vice president, and C. E. Jones, treasurer and clerk.

The Osius Chemical Co., Inc., is a new company engaged in the manufacture of dental vulcanite and dental specialties at Muskegon, Michigan. They manufacture also some of the chemical preparations of Dr. Frederick Osius, who is president and superintendent of the company. Mr. R. Osius is secretary and treasurer. The office of the company is at No. 125 Monroe street, Grand Rapids, Michigan.

IMPROVEMENTS AND ADDITIONS.

THE improvements and additions made by the Apsley Rubber Co. (Hudson, Massachusetts) during 1906 include a six story addition, 110 x 60 feet, to their shoe factory; an extension of their box and last factory, in which is embraced a storeroom capable of storing 300,000 blocks for making lasts; and a line of coal pockets, convenient to the Boston and Maine railroad track, large enough for 5000 or more tons of coal.

The Boston Woven Hose and Rubber Co. has purchased 100 acres of land equal in area to that which the factory now occupies at Cambridge, Massachusetts, and on this will soon erect several large buildings.

George Borgfeldt & Co., the extensive New York paperers, whose stock embraces hard and soft rubber goods, announce

that, in view of the continued growth of their business, they have opened a new and commodious department, at Nos. 43-51 West Fourth street, in which will be located their house furnishing department, in readiness from February 1.

FACTORY STARTS AT NORTH BROOKFIELD.

THE factory of the B. & R. Rubber Co., lately organized at North Brookfield, Massachusetts, by Thomas G. Richards and Charles C. Beebe, was put in operation during the past month. They have been busy making up samples, beginning with tubing and heels, and will gradually add other lines of mechanical goods and specialties.

NEW ENGLAND RUBBER CLUB DINNER.

THE New England Rubber Club dinner, to be held on February 13, at the New Algonquin Club, Boston, promises to be one of the most notable that the Club has yet enjoyed. The executive committee, while furnishing abundant food for thought in the addresses of such men as Mr. T. E. Byrnes, first vice president of the New York, New Haven and Hartford railroad, and others, have also provided most effectively for the entertainment of the members of the Club by securing men, for example, like Frank Lincoln, known the world over as the best American after dinner story teller.

GETTING TO WORK AT ANDOVER.

THE Andover Rubber Co. (Andover, Massachusetts), the incorporation of which was reported in the last *INDIA RUBBER WORLD* (page 127), have awarded contracts for the erection of a factory building of brick, two stories, 50 x 120 feet, on Railroad street. Meanwhile a frame building has been erected, in which the company hope to be ready to begin making dipped goods by February 21. Later the company may engage in making pneumatic and solid rubber vehicle tires. Mr. Matthew S. Hannan is president of the new company. He was formerly in the employ of the Tyer Rubber Co., and for some time past has been operating a rubber plant at Ballardvale, Mass.

FOR A CO-OPERATIVE RUBBER SHOE FACTORY.

A NEW scheme of industrial cooperation is being developed at Malden, Massachusetts, under the name Skill-Brains Union Co., to combine "brains" and "skill" in manufacturing enterprises. Among other projects is the "Skill-Brain Rubber Co.," for which a prospectus is issued, inviting subscriptions of capital. It is stated that "rubber boots and shoes of all kinds will be manufactured and marketed—but other rubber goods will be made when the business gets fully developed."

TRADE NEWS NOTES.

It is reported that a committee of the board of the United States Rubber Co., after an examination of the two mills of the Glenark Knitting Co. (Woonsocket, Rhode Island), reported against their purchase. Later, on January 17, the sale of the Glenark company's "Colehis" mill was reported, at something like \$60,000, to a purchaser not named, but stated not to be the United States Rubber Co.

The Rockland Elastic Fabric Co. is the name of a new concern organized at Rockland, Massachusetts, to make narrow elastic fabrics. They have begun work at the Rockland Webbing Co. plant. Chester Woodward and C. D. Stringer are interested.

The Boston Rubber Shoe Co. have distributed some small metal signs that are exceedingly artistic. They look like solid pieces of antique bronze covered with verdigris. The signs are 10 x 14 inches and are hung with a green bronze chain, matching the general color scheme of the sign.

The American Can Co. (New York) furnish not only cups for collecting rubber latex, and cans and tanks for cement and other materials used in the rubber manufacture, but an almost unlimited variety of metal goods for other trades, including about everything in tin that a druggist can need.

TRADE NEWS NOTES.

THE position of traffic manager of the United States Rubber Co. (New York), vacated recently by Mr. John M. Galloway, has been filled by the appointment of Mr. George F. Hiehorn.

The H. W. Johns-Manville Co. (New York) have opened a branch office, for the sale of their insulation products, in New Orleans, at Baronne and Perdido streets, in charge of Mr. W. E. Carpenter.

The factory of the Hood Rubber Co., at East Watertown, Massachusetts, was closed on January 5 for a nine-days' vacation. After resumption of work a 9-hour day was adopted instead of 10 hours.

A dinner was given to a number of selling agents of the United States Rubber Co., by Mr. Eben H. Paine, manager of sales of the company, at the New Algonquin Club, Boston, on the evening of January 10. It was an attractive dinner, with covers for 15, on a round table, and was thoroughly enjoyed.

The registered office of the Intercontinental Rubber Co., the incorporation of which was chronicled in the last *INDIA RUBBER WORLD*, is with the Registrar and Transfer Co., No. 15 Exchange place, Jersey City, New Jersey.

The assets of E. M. Moer's Sons, dealers in scrap rubber and other waste materials, at Nos. 5-9 James slip, New York, have been placed in the hands of a receiver in bankruptcy, on the petition of creditors for \$2166. Rufus W. Sprague, Jr., was appointed receiver on January 7.

The Home Rubber Co. (Trenton, New Jersey) are very much pleased over an item which appeared in the *London Standard* concerning their "N. B. O." sheet packing, which is as follows: "We know of an instance where this packing is being used for jointing cylinder covers of an engine using steam at 400 pounds per square inch, with a temperature of over 700° F., without any trouble being experienced."

The "Motorman's" shoe made by the Wales-Goodyear Shoe Co. is a very strong, serviceable, high lace gaiter, with snow excluding fold. It has double soles, solid heel, and a leather insole. It is exceedingly popular among motormen and all others who have to be out doors much in inclement weather.

The Mexican Crude Rubber Co. (Viesca, Coahuila, Mexico), manufacturers of "Viesca Standard" guayule rubber, write to THE *INDIA RUBBER WORLD* that they are in the market for machinery and labor saving devices for the extraction of guayule rubber from the shrub. They have, by the way, offices not only in Viesca, Mexico, but at No. 210 Mermod-Jaccard building, St. Louis, Missouri.

After all, it takes a practical rubber man to successfully sell compounding ingredients. Frank Reifsnider, for example, in introducing his aluminum flake and to show its heat resisting qualities, takes two samples of vulcanized rubber, one containing his ingredient, and the other without, and puts them in boiling water and the rubber manufacturer thus becomes his willing customer.

Mr. Harry S. Quine, managing editor of the Akron (Ohio) *Times-Democrat*, who was formerly advertising manager for The Diamond Rubber Co., advises THE *INDIA RUBBER WORLD* that the *Times-Democrat* will soon make a feature of a rubber column to appear, at least, two or three times a week, and which will contain all the live news of the local rubber field.

The material advertised under the name "Compo rubber roofing," by The Lincoln Waterproofing Cloth Co. (Bound Brook, New Jersey), as being waterproof and durable, does not, it is understood, contain any rubber. The name used is part of a registered trade-mark, but it is explained that a "rubber-like compound" might be more accurate.

The new "Vacation" shoe is proving one of the best sellers among the popular line of summer shoes made by the United States Rubber Co. It is the acme of cool comfort, good looks, and solid wear.

TRADE NEWS NOTES.

THE corporate existence of the Wheeler & Wilson Manufacturing Co., long prominent in the sewing machine trade, has ceased in view of the merger of their business with the Singer Manufacturing Co.

The annual meeting of shareholders of the New York Rubber Co., for the election of trustees, was held at the company's offices in New York on January 29.

Mr. Robert J. Firestone has been appointed sales manager of the Firestone Tire and Rubber Co., with headquarters at Akron, Ohio.

Articles of incorporation have been filed by the Standard Rubber Manufacturing and Supply Co., under the laws of New Jersey, with \$100,000 capital. Incorporators: Stephen C. Cook, Ignatius L. Jambre, Albert A. Taylor, Jr., and Charles L. Conard. Registered office: No. 147 East State street, Trenton.

H. M. Shepard, for some time past president and general manager of the Elkhart Rubber Works (Elkhart, Indiana), has retired from that company and will be at the head of a new company formed to manufacture tires and mechanical rubber goods, on a larger scale, in the same city.

RUBBER FOOTWEAR PRICES.

THE United States Rubber Co. on January 14 issued a circular to their customers, introduced as follows: "Referring to our circular letter of October 6, 1906, wherein we notified you that our contract for the coming season would be issued on March 1, 1907, we now advise you that at the urgent request by and in behalf of many of our customers, we will issue our new contract as of January 16, 1907, cancelling the one now in force, dated January 2, 1906."

It is stated that the gross price list for the season of 1907 will be the same as last year, and subject to change without notice. The discounts to retailers remain as before, except that they are also subject to change without notice. They are as follows:

First quality (except Woonsocket and Meyer)..... 25 @ 3%
Woonsocket and Meyer brands..... 25 @ 5 @ 3%
Second quality (except Rhode Island and Jersey)..... 25 @ 3 @ 10%
Rhode Island and Jersey..... 25 @ 5 @ 3 @ 10%

There will be no extra discount for early orders, but a cash discount will be allowed at the rate of 7 per cent per annum for prepayment of accounts rendered for shipment to March 31, and at the rate of 12 per cent on accounts rendered for shipment on and after April 1.

* * *

REFERRING to a report which has appeared very generally in the newspapers that prices of rubber boots and shoes have been advanced 5 per cent, it may be said here that the same appears to be due to a misapprehension. As stated above, there is no change in lists or discounts this year, unless comparison be made with the period between January 1 and April 1, 1906. At the beginning of last year an extra discount of 5 per cent. was announced to induce the placing of early orders, but this offer expired on April 1. No extra discount is allowed this year, which leaves net prices to retailers unchanged since April 1 last.

RUBBER MEN AT DINNER.

THE concerns named below were represented at a dinner at Sherry's, in New York, on Friday evening, January 18. The dinner was attractively served at a round table, at which there were 44 guests. It was an informal affair, greatly enjoyed by those present. There was no regular toastmaster and no formal after-dinner speeches, though short addresses were made by Messrs. John J. Voorhees, Welling G. Sickel, Charles A. Daniels and H. E. Raymond. The dinner was presided over by Mr. William Hillman. The firms represented were:

Crescent Belting and Packing Co., Easthampton Rubber Thread Co., Electric Hose and Rubber Co., Empire Rubber Manufacturing Co., Eureka Fire Hose Co., Fabric Fire Hose Co., Firestone Tire and Rubber Co., The B. F. Goodrich Co., Manhattan Rubber

Manufacturing Co., New York Belting and Packing Co., Limited, New York Rubber Co., Pennsylvania Rubber Co., Rhodes Rubber Manufacturing Co., Quaker Co., Rubber Co., Republic Rubber Co., Revere Rubber Co., Rubber Co., Manufacturing Co., United and Globe Rubber Manufacturing Co., V. A. Ross Rubber Manufacturing Co., Manufactured Rubber Co., U. S. Rubber Reclaiming Works, Trenton Rubber Reclaiming Works, Derby Rubber Co., W. H. Cummings & Son, New York Commercial Co., J. P. Devine Co., The Carter-Bell Manufacturing Co., Continental Rubber Co., J. H. Lane & Co., Parcel Laundry and Machine Co., and Osgood Sayen.

EUREKA FIRE HOSE CO.

It is understood that the shares in the Eureka Fire Hose Co. (New York) held by the estate of the late John Van Dussen Reed have changed ownership. Mr. Reed was one of the founders of the company, in 1875, and at his death in 1892 held a controlling interest. The officers of the company to-day are Benjamin L. Stowe, president; George A. Wies, vice-president and treasurer, and N. E. McKeon, secretary. Mr. McKeon, who is a practiced rubber man, also becomes general factory manager. The directors are Messrs. Stowe and Wies, and James Boyd, of the Philadelphia house of James Boyd & Brother, dealers in mechanical rubber goods. Mr. Stowe was interested with Mr. Reed at the inception of the company and, beginning with 1875, has been the inventor of many improvements in mechanism for circular hose weaving which are utilized by the Eureka company. Mr. Wies, who entered the employ of the company at the beginning, has grown up with the business and taken an active part in its large expansion. The family of Mr. Boyd have been identified with the development of rubber lined cotton fire hose for nearly a half century, a patent on such hose having been granted to a member of the family as early as 1859.

UNITED STATES RUBBER CO. SHARES.

FIRST PREFERRED STOCK, \$35,000,000.

Last Dividend, October 31, 1906—2%.

	1902.	1903.	1904.	1905.	1906.
Shares sold.....	104,202	62,343	182,443	200,497	123,700
Highest price.....	64	58	100	118 ¹ / ₂	115
Highest, 1906, January 15; Lowest, July 13; Closing, 107 ¹ / ₄ .					

SECOND PREFERRED STOCK, \$6,580,300.

	1902.	1903.	1904.	1905.	1906.
Lowest price.....	49 ¹ / ₂	30 ¹ / ₄	41	68 ³ / ₄	104 ¹ / ₄
Last Dividend, October 31, 1906—1 ¹ / ₂ %.					

	1905.	1906.
Shares sold.....	21,550	50,845
Highest price.....	83 ³ / ₄	87 ¹ / ₂
Lowest price.....	75	75
Highest, 1906, January 15; Lowest, May 2; Closing, 78 ¹ / ₂ .		

COMMON STOCK, \$25,000,000.

Last Dividend, April 30, 1906—1%.

	1902.	1903.	1904.	1905.	1906.
Shares sold.....	53,356	80,800	285,819	723,665	607,800
Highest price.....	19 ³ / ₈	19 ¹ / ₈	34 ¹ / ₂	58 ¹ / ₂	59 ¹ / ₂
Lowest price.....	14	7	10 ¹ / ₂	33 ³ / ₄	38
Highest, 1906, October 2; Lowest, July 13; Closing, 51.					

MR. HARRY HAZARD SHEPARD, formerly general manager of the National India Rubber Co., has been reappointed a member of the state board of charities and corrections of Rhode Island, the term dates from February 1.

It is commonly reported in Canada that two rubber shoe manufacturing companies in the Dominion have been purchased by interests friendly to the Consolidated Rubber Co., Limited, and are likely soon to pass into the control of the latter, but up to date no corroboration of the report is obtainable beyond an admission of the change in control of the two companies.

A BOOK ON RUBBER TIRES.

RUBBER TIRES AND ALL ABOUT THEM. PNEUMATIC, SOLID, Cushion, Combination, For Automobiles, Omnibuses, Cycles, and Vehicles of Every Description. By Henry C. Pearson, Editor of THE INDIA RUBBER WORLD. New York: The India Rubber Publishing Co. 1906. 146 pp. 8vo. Price, \$3.10.

IN view of the great importance of rubber tires in modern economy, and the fact that within the past few years they have come into such widespread use, it is rather surprising that a comprehensive work relating to them has not appeared until now. If we consider that what is called civilization is the result of intercourse between different peoples, it will be realized that no factor in human progress has been or is of greater importance than transportation. The steam railway brought about a new era in social and commercial life, but it was an innovation no less marked than that which we seem destined to see in the case of the automobile and the allied vehicles, and these would have been impossible without rubber tires.

Not only is the subject of tires of much general interest, therefore, but it is of particular and practical interest to almost every individual nowadays, for who does not own, or hope to own, some sort of rubber tired vehicle? But whoever has sought to become informed in regard to the nature of rubber tires, or their proper use and care, by reading, has had to be content with fragmentary bits picked up at haphazard, with no guarantee that the writers understood their subject.

Our author disclaims any purpose of teaching rubber manufacturers how to make tires. He aims rather to help the rest of the world to choose the particular wheel equipment best suited to each man's needs, and, by explaining the nature of rubber and the construction and function of tires, to show the owner or user how to derive the greatest amount of benefit from his tires. It is in no sense a technical book, and yet there is condensed within its pages the whole theory of what the resilient tire does, and how; why such tires are "fast"; where their weak points lie; the relation of size to capacity, and so on. These are subjects of equal importance to manufacturer and consumer, but whereas the former class has at its command the combined experience of the tire making craft, the individual buyer of a tire is apt to begin with everything to learn, and it is desirable that he should be able to learn it without his experience being too costly. It is for the benefit of the latter that the book before us seems more particularly to be designed.

Starting with chapters on what india-rubber is, and the general details of the rubber manufacture, the author proceeds to tell briefly how rubber tires of different types are made, and the uses for which they are fitted. The question of the proper care of tires is treated fully, and the repairing of damaged tires. There are chapters of historical interest, tracing the development of solid, cushion, and pneumatic tires; a record of tire patents and litigation; and some account of "Where Tires Are Made."

The value of the book is greatly enhanced by about 300 illustrations, relating to every known type of tire, rims, pumps, valves, and other accessories; machines used in tire constructions; and details of repair outfits. In brief, the book is a practical work by a practical man, written in plain language without the use of too many words, and the publishers have brought it out in an attractive form.

H. S.

OBITUARY.

THE death is reported of BENJAMIN F. GOOD, vice president and treasurer of the American Steam Packing Co. (Boston), having occurred on January 10 at Newton Centre, Massachusetts, at the residence of A. Montgomery, his stepfather, and the president of the company named. The company, indeed, was composed of the two here named. Mr. Good had been a member of the New England Rubber Club from the inception of

that organization, and at a special meeting of the Club on January 12 the following resolutions were adopted:

WHEREAS, Our friend and associate, Ben F. Good, has been stricken by death and removed from our midst, we, his fellow members, in recognition of our loss, record the following resolutions:

Resolved, That during his connection with the rubber trade, and during his membership in our Club, extending practically over the whole time of its existence, his liberal and generous nature, good heart and the general loyality of his character, made of every business acquaintance a personal friend, each one of whom now laments his untimely decease. Straight-forward and true in association with his business companions, upright and honest in his dealings with men, the trade has lost a valued member.

Resolved, That we extend to his family, and to his business associates, our deep and sincere sympathy.

Resolved, That these resolutions be spread upon the records of the Club, and that a copy be sent to his family.

ARTHUR W. STEDMAN,
GEORGE F. WHITMORE,
ELSTON E. WADSWORTH,
Committee on Resolutions.

The funeral was attended by a delegation from the Rubber Club. Of the six pall bearers, three represented Masonic bodies and three were from business associations. Something more than a year ago Mr. Good suffered a bereavement in the loss of his wife, from which he seemed never to recover.

* * *

THE many friends of Mr. Theodore S. Bassett, president of the U. S. Rubber Reclaiming Works, will be pained to hear of the sudden death of his wife, which occurred on January 27, at their residence at Milford, Connecticut. Mrs. Bassett was the eldest daughter of the late Harmon K. and Caroline B. Wells. There were funeral services at the Second Congregational Church at Derby, Conn., on January 30.

* * *

THE death is reported of Mrs. Mary E. Sawyer, on January 18, at the residence of her son-in-law, Mr. B. G. Work, president of The B. F. Goodrich Co., at Akron, Ohio. Mrs. Sawyer was Miss Mary E. Monsaratt, of Louisville, Kentucky, at the time of her marriage to the late Ezra Thomas Sawyer, who became president and general manager of the Easthampton Rubber Thread Co. (Easthampton, Massachusetts), which position he filled for more than 20 years. Mr. Sawyer died in the latter part of 1897, and during most of the time since his widow has resided with her daughter in Akron.

THE TEXTILE GOODS MARKET.

THE present consumption of cotton by the rubber trade—especially in its mechanical and hose and belting departments—has never been equaled in the history of the trade. The capacity of the principal mills in the cotton industry has been and is being overtaxed, despite which the call of these branches of the trade is not being satisfied. As far as can be determined this paucity of supply is attributable to the inadequate facilities for the production of the finished article, rather than on account of any scarcity of raw cotton. The existing demand is claimed to be abnormal and there is no doubt that the mills could readily meet the requirements of an ordinary market.

The general situation is reflected in a published report, showing an increase in the movement of cotton into sight in the week ending January 10, compared with the corresponding period last year, in round figures, of 215,000 bales, an increase over year before last of 202,000, and an increase over 1904 of 174,000. For 140 days of the season the aggregate is ahead of last year 1,526,000 bales, ahead of year before last 578,000, and ahead of 1904 by 152,000. The total movement for the United States for 140 days of the season from September 1, amounts to 9,153,674 bales, against 7,627,237 last year, 8,575,262 year before last, and 7,633,300 in 1904.

The report of the world's visible supply shows a steady increase, the gains for the past week being 105,570 bales, as against a decrease of 67,161 year before last.

The total visible is 5,479,706.

The recently issued government report shows the amount of cotton ginned to January 16 to have been 12,167,873 bales.

Review of the Crude Rubber Market.

THE arrivals at Para of rubber of all grades during 1906 were only slightly in excess of those for the preceding year. This may be accounted for in part by the delay of important lots upstream, due to low water. The arrivals since July 1, the beginning of the crop season, were less than for the same period a year ago. Taking the world's production as a whole, an increase has been shown. Consumption has increased at an equal rate, so that prices have been maintained on an unprecedentedly stable basis. American imports of crude rubber during 1906 exceeded those of any former year by some 1,300 tons. Exports were larger, however, but stocks at the end of the year were smaller than at the beginning. The reported deliveries to manufacturers (including Canada) were larger by 400 tons than in 1905. Both imports and consumption in the United States have doubled within ten years, and consumption has more than trebled in thirty years.

Following is a statement of prices of Para grades, one year ago, one month ago, and on January 20—this date:

PARA.	Feb. 1, '06.	Jan. 1, '07	Jan. 20
Islands, fine, new.....	122 ^a 123	118 ^a 119	118 ^a 119
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	126 ^a 127	123 ^a 124	123 ^a 124
Upriver, fine, old.....	none here	127 ^a 128	127 ^a 128
Islands, coarse, new.....	73 ^a 74	72 ¹ 72 ¹	72 ^a 72 ¹
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	93 ^a 94	97 ^a 98	97 ¹ 98
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	74 ^a 75	76 ^a 77	78 ^a 79
Caucho (Peruvian) ball.....	74 ^a 75	95 ¹ 96	96 ^a 97
Ceylon (Plantation) fine sheet.....	86 ^a 87	137 ^a 138	137 ^a 138

AFRICAN.	CENTRALS.
Sierra Leone.....	Esmeralda, sausage..... 94 ^a 95
1st quality..... 108 @ 108 ¹	Guayaquil, strip..... 76 ^a 77
Massai, red..... 108 @ 108 ¹	Nicaragua, scrap..... 92 ^a 93
Benguella..... 78 @ 79	Panama, slab..... 70 ^a 71
Cameroon ball..... 77 @ 78	Mexican, scrap..... 93 ^a 94
Accra flake..... 22 @ 23	Mexican, slab..... 71 ^a 72
Lopori ball, prime..... 116 ¹ 117	Mangabeira, sheet..... 67 ^a 71
Lopori, strip, prime..... 107 @ 108	Guayule..... 114 ^a 15
Madagascar, pinky..... 90 @ 91	
Ikelemba..... 117 ¹ 118	EAST INDIAN.
Soudan niggers..... 93 @ 94	Assam..... 94 ^a 95
	Borneo..... 40 ^a 50

Late Para cables quote:

	Per Kilo	Per Kilo
Islands, fine.....	\$550	Upriver, fine..... 680 75
Islands, coarse.....	\$650	Upriver, coarse..... 487 5
Exchange, 15 9-16d.		

Last Manaos advices:

Upriver, fine.....	6\$600	Upriver, coarse..... 4\$100
Exchange, 15 17-32d.		

NEW YORK PRICES FOR DECEMBER (NEW RUBBER).

	1906.	1905	1904
Upriver, fine.....	1.22 ^a 1.24	1.23 ^a 1.29	1.18 ^a 1.30
Upriver, coarse.....	.96 ^a .98	.96 ^a .97	.80 ^a .97
Islands, fine.....	1.18 ^a 1.20	1.20 ^a 1.26	1.14 ^a 1.20
Islands, coarse.....	.71 ^a .73	.71 ^a .77	.65 ^a .72
Cameta, coarse.....	.72 ^a .74	.72 ^a .78	.65 ^a .71

In regard to the financial situation, Albert B. Beers, broker in crude rubber and commercial paper, No. 68 William street, New York, advises us:

"During the first 10 days of January the money market continued about the same as for two months previously, with very little demand for paper, and only at high rates averaging about 7 per cent, but since the middle of the month there has been an increasing demand from city and out-of-town banks, but at full rates, 6 @ 6½ per cent."

Statistics of Para Rubber (Exc'uding Caucho).

	Fine and Medium, 1906.	1905.	1904.
Stocks, November 30.....	94	68	154
Arrivals, December.....	1580	1580	1705
Aggregating.....	1674	360	1442
Deliveries, December.....	1501	557	1320
Stocks, December 31.....	173	3	122

	PARA	1906.	1905.	1904.
Stocks, Nov. 30.....	Tons	860	395	540
Arrivals, December.....		2555	2685	3220
Aggregating.....		3415	3380	3760
Deliveries, December.....		3415	2795	3500
Stocks, December 31.....		64	585	200

	1906.	1905.	1904.	
World's visible supply, December 31.....	Tons	1,978	2,589	2,444
Para receipts, July 1 to December 31.....		13,400	13,595	12,551
Para receipts of Caucho, same dates.....		1,205	1,035	779
Atlat from Para to United States, Dec. 31.....		952	652	1,520
Atlat from Para to Europe, December 31.....		485	660	486

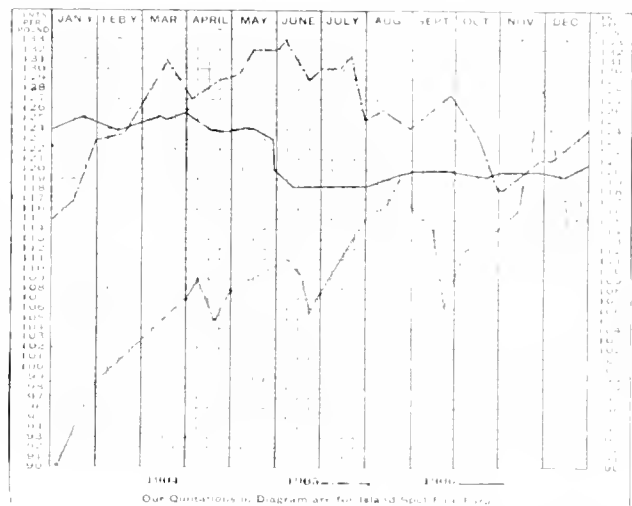


CHART SHOWING FLUCTUATIONS IN ISLAND SEEDLING PARA RUBBER AT NEW YORK, FOR THREE YEARS

(Copyrighted, 1907, by Henry A. Gould.)

London.

PLANTATION RUBBER

JANUARY 4. At to day's auction 357 packages of plantation rubber from Ceylon and the Malay States were offered, of which 292 found buyers. The total weight exceeded 21 tons, of which Ceylon contributed 9 tons. The market opened with a good demand, fine crepe being keenly competed for and fetching the highest price paid—5s. 9½d. [\$1.40 1 5] per pound, for one case from Lanadron estate. A fine lot of block rubber from Lanadron, of over two tons, was offered, but withdrawn for private treaty. A lot of rambong (*Picus*) crepe fetched 5s. 0½d. [\$1.22 1 8] per pound. The average received for all the

plantation at was 58 3/4 d [\$1.28 3/4]. The highest price for plantation one year ago was 68 2/4 d [\$1.50]. Highest price for Amazon Pará to-day, 58 2 1/2 d [\$1.20 1/2]; last year, 58 1/4 d [\$1.30 1/4]. Decline in plantation for the year, 6 1/2 per cent; decline in Pará, fine, 3 1/2 per cent.

JANUARY 11. Lewis & Peat report: "Plantation Grown Pará. There is a good demand for good quality sheets, biscuits, crepe, and block, at 58 7/8 d, 58 8 d [\$1.35 7/8 to \$1.37 1/8] per pound, and a small business has been done privately." No auctions this week.

JANUARY 18. About 31 tons of plantation rubber were offered to-day and found buyers at higher prices. The highest price paid was 58 1/4 d [\$1.41] per pound, for a case of Ceara biscuits from Rumballe estate, Ceylon. The next highest price was 58 10/16 d, for crepe, from the Consolidated Malay Rubber Estates, Limited. The average paid for plantation sorts was 58 1/4 d [5 1/2 cents] higher than at the preceding auction.

At a meeting of the directors of the Rubber Goods Manufacturing Co. (New York, January 24) the question was considered of liquidating the company as a separate corporation, now that its shares are held by the United States Rubber Co. No decision was reached, and the matter is expected to be taken up at the next meeting of the board.

Liverpool

EDMUND SCHULTER & Co. report [December 31]:

Para Rubber. Pará grades were somewhat less active during the month than during November. The expectations of larger arrivals from Brazil were not realized, as the continued low water in the rivers made it impossible for the reported stocks in the interior to come down. In consequence, prices hardened a little, and quotations at the close were dearer. Inasmuch as it is impossible to say when the predicted large increase of receipts at Manaus and Pará will take place, it is difficult to form an opinion about prices, but the available supplies at the consuming markets during the next few weeks will be small and prices therefore cannot be expected to recede. This is especially the case with cancho, the proportion of which in the arrivals at Manaus is exceedingly small.

WORLD'S VISIBLE SUPPLY OF PARA, DECEMBER 31.

	1906.	1905.	1904.	1903.	1902.
Tons	2183	2740	2648	3351	3365
Prices, hard fine.	5 2 1/2	5 5	5 13/4	3 11 1/2	3/9

PARA RUBBER VIA EUROPE

DEC. 21.—By the <i>Prins Frederik</i> =Mollendo;		POUNDS.	
W. R. Grace & Co. (Cauchó).....		18,000	
DEC. 24. By the <i>Pennsylvania</i> =Hamburg:		POUNDS.	
General Rubber Co. (Fine).....	9,000		
A. G. Morse & Co. (Fine).....	3,500	12,500	
DEC. 24. By the <i>Umbria</i> =Liverpool:		POUNDS.	
New York Commercial Co. (Fine).....	25,000		
Robinson & Stiles (Fine).....	25,000		
General Rubber Co. (Fine).....	9,000	59,000	
DEC. 26. By the <i>Born</i> =Liverpool:		POUNDS.	
Poel & Arnold (Fine).....	100,000		
New York Commercial Co. (Fine).....	35,000		
New York Comm'l Co. (Coarse).....	6,000	141,000	
DEC. 28. By the <i>Magdalena</i> =Mollendo:		POUNDS.	
New York Commercial Co. (Fine).....	14,500		
New York Comm'l Co. (Coarse).....	1,500		
A. D. Hitch & Co. (Coarse).....	3,000	18,000	
DEC. 29.—By the <i>St. Laurent</i> =Havre:		POUNDS.	
Poel & Arnold (Cauchó).....		11,000	
DEC. 31.—By the <i>Carona</i> =Liverpool:		POUNDS.	
General Rubber Co. (Fine).....		17,500	
JAN. 5. By the <i>Prinzess</i> =Hamburg:		POUNDS.	
A. G. Morse & Co. (Fine).....		25,000	
JAN. 14. By the <i>Carmania</i> =Liverpool:		POUNDS.	
Poel & Arnold (Coarse).....		18,000	
JAN. 19. By the <i>Britt</i> =Mollendo:		POUNDS.	
New York Commercial Co. (Fine).....		8,000	
New York Comm'l Co. (Coarse).....		2,000	
A. D. Hitch & Co. (Coarse).....		3,000	13,000

LIVERPOOL STOCKS OF AFRICAN RUBBER, DECEMBER 31.

1906	287	1903	255	1900	770
1905	300	1902	375	1899	570
1904	308	1901	580	1898	470

Rubber Scrap Prices.

New York quotations—prices paid by consumers for carload lots in cents per pound—are higher than one month ago.

Old Rubber Boots and Shoes Domestic.....	12 3/8 @	12 5/8
Do — Foreign.....	10 1/2 @	10 5/8
Pneumatic Bicycle Tires.....	7 1/2 @	7 3/4
Automobile Tires.....	10 @	10 3/8
Solid Rubber Wagon and Carriage Tires.....	8 3/4 @	8 7/8
White Trimmings Rubber.....	11 1/2 @	11 3/4
Heavy Black Rubber.....	5 1/2 @	5 5/8
Air Brake Hose.....	4 3/4 @	5
Fire and Large Hose.....	3 5/8 @	3 3/4
Garden Hose.....	2 1/2 @	2 3/4
Mitting.....	1 1/2 @	1 5/8

IMPORTS FROM PARA AT NEW YORK

[The Figures Indicate Weights in Pounds.]

December 27. By the steamer <i>Cameteuse</i> , from Manaus and Para:		FINE. MEDIUM. COARSE.		CAUCHO.		TOTAL.	
IMPORTERS.							
General Rubber Co.....	287,500	77,400	124,200	800			489,000
Poel & Arnold.....	174,300	55,200	143,000	21,100			393,500
A. G. Morse & Co.....	120,100	21,300	45,000				195,400
New York Commercial Co.....	147,800	32,000	42,400	500			222,700
C. P. dos Santos.....	34,900	2,800	13,900	600			52,200
Edmund Reeks & Co.....	15,900	5,800	21,900				43,600
Neale & Co.....	10,000		15,700				25,000
W. E. Peck & Co.....	11,100						11,100
Total.....	810,900	194,500	407,000	23,000			1,435,400
January 3.—By the steamer <i>Boniface</i> , from Manaus and Para:		FINE. MEDIUM. COARSE.		CAUCHO.		TOTAL.	
General Rubber Co.....	108,400	19,600	118,200	2,000			248,200
Poel & Arnold.....	93,400	27,700	62,400	100			183,600
New York Commercial Co.....	77,300	12,200	30,900	1,000			121,400
A. G. Morse & Co.....	68,500	7,200	36,200				111,900
Edmund Reeks & Co.....	68,300	11,000	23,500				102,800
Neale & Co.....	36,800	3,500	52,700				93,000
C. P. dos Santos.....	35,400	9,600	37,800	900			83,700
Hagemeyer & Brunn.....	3,700		7,900				11,600
Total.....	501,800	90,800	369,600	4,000			966,200
January 14.—By the steamer <i>Ceara</i> , from Manaus and Para:		FINE. MEDIUM. COARSE.		CAUCHO.		TOTAL.	
Poel & Arnold.....	106,400	33,600	143,300	1,200			284,500
New York Commercial Co.....	104,200	40,000	40,400				184,600
General Rubber Co.....	72,500	10,700	80,300				163,500
A. G. Morse & Co.....	104,400	18,500	21,000	15,800			160,000
Edmund Reeks & Co.....	44,600	7,800	29,600				82,000
C. P. dos Santos.....	43,900	5,700	12,300				61,900
Hagemeyer & Brunn.....	23,100		21,300				44,400
Neale & Co.....	8,500	1,400	18,200	300			28,400
Total.....	507,600	117,000	367,300	17,300			1,009,200

NOTE.—The steamer *Cuthbert*, from Para, is due at New York February 8, with 525 tons rubber.

OTHER ARRIVALS AT NEW YORK

CENTRALS.		POUNDS.	
DEC. 21. By the <i>Ethel Frederich</i> =Colon:		POUNDS.	
Hirzel, Feltman & Co.....	14,200		
DEC. 22.—By the <i>Seguranca</i> =Frontera:		POUNDS.	
Harburger & Stack.....	2,000		
E. Stenger & Co.....	1,500		
Graham, Binkley & Co.....	1,000		
H. Marquardt & Co.....	500		
American Trading Co.....	500	5,500	
DEC. 24.—By the <i>Financ</i> =Colon:		POUNDS.	
Hirzel, Feltman & Co.....	4,000		
Dunarest Bros. & Co.....	4,200		
G. Amsinck & Co.....	3,000		
L. Johnson & Co.....	3,500		
Andean Trading Co.....	3,500		
A. Santos & Co.....	3,400		
Rodlan & Van Sickle.....	1,500		
Isaac Brandon & Bros.....	1,500		
American Trading Co.....	1,500		
Isa. Int'l & Co.....	1,800		
Atamburo Incipit.....	1,000		
Meyer Hecht.....	1,200		
J. V. Harman Co.....	1,200		
R. G. Barthold.....	600	34,300	
DEC. 24.—By the <i>Chorofagos</i> =Tampico:		POUNDS.	
Edward Maurer.....	55,000		
W. C. Coleman & Co.....	7,500	62,500	
DEC. 24.—By the <i>Pennsylvania</i> =Hamburg:		POUNDS.	
Poel & Arnold.....		11,000	

CENTRALS—Continued.

DEC. 24.—By the <i>Umbria</i> =Liverpool:		POUNDS.	
General Rubber Co.....	11,500		
A. W. Brunn Co.....	4,500	16,000	
DEC. 24. By the <i>Gayas</i> =Bahia:		POUNDS.	
New York Commercial Co.....	2,500		
A. D. Hitch & Co.....	2,500		
American Commercial Co.....	4,500	9,500	
DEC. 26.—By the <i>Colon</i> =Colon:		POUNDS.	
G. Amsinck & Co.....	4,000		
Meyer Hecht.....	1,000	5,000	
DEC. 26.—By the <i>Born</i> =Liverpool:		POUNDS.	
Geo. A. Alden & Co.....	34,000		
Poel & Arnold.....	8,000	42,000	
DEC. 27.—By the <i>Oceanic</i> =Liverpool:		POUNDS.	
Poel & Arnold.....		45,000	
DEC. 27.—By the <i>Cameteuse</i> =Ceara:		POUNDS.	
Emilio Boris.....		5,000	
DEC. 28.—By the <i>El Cid</i> =Galveston:		POUNDS.	
Continental & Mexican Co.....		22,500	
DEC. 27.—By the <i>Momus</i> =New Orleans:		POUNDS.	
Manhattan Rubber Mfg. Co.....	8,000		
A. G. Morse & Co.....	5,000		
A. N. Rotholz.....	5,000		
Eggers & Henlem.....	3,000		
G. Amsinck & Co.....	1,500	22,500	
DEC. 28.—By the <i>Sarna</i> =Columbia:		POUNDS.	
J. A. Pauli & Co.....	2,500		
D. A. De Lima & Co.....	2,500		
Escobar & Gorgorza Co.....	2,000		
A. Hela.....	1,500		
Luzarte & Whitney.....	700		
A. D. Straus & Co.....	500		

CENTRALS—Continued.

A. A. Lindo & Co.	500	
J. Brandon & Bros.	500	
G. Amsinck & Co.	500	11,200
DEC. 28. By the <i>Magdalena</i> =Nicaragua:		
G. Amsinck & Co.	5,500	
W. R. Grace & Co.	2,000	
E. B. Straub.	1,500	
Meyer Hecht	1,000	
Wessels, Kulen, Kamp Co.	500	19,500
DEC. 29. By the <i>Merida</i> =Vera Cruz:		
H. Marquardt & Co.	1,500	
Graham, Hinkley & Co.	1,500	
W. H. Wadleigh.	1,000	4,000
DEC. 31. By the <i>Casimira</i> =Liverpool:		
Robinson & Stiles	7,000	
George A. Alden & Co.	5,000	12,000
JAN. 2. By the <i>Intilla</i> =Tampico:		
New York Commercial Co.	22,500	
European account	20,000	42,500
JAN. 2. By the <i>Butana</i> =Hamburg:		
George A. Alden & Co.	11,500	
JAN. 2. By the <i>Comus</i> =New Orleans:		
A. G. Morse & Co.	5,500	
A. N. Rotholz.	4,500	10,000
JAN. 4. By the <i>Adriana</i> =Colon:		
Andean Trading Co.	5,500	
Mann & Emdon	2,000	
Kunhardt & Co.	1,000	
G. Amsinck & Co.	500	
Dunsmuir Bros. & Co.	500	
R. Fabian & Co.	500	10,000
JAN. 4. By the <i>El Siglo</i> =Galveston:		
Wilson Trading Co.	3,500	
JAN. 5. By the <i>Patricia</i> =Hamburg:		
Poel & Arnold	15,500	
JAN. 5. By the <i>Tagus</i> =Colon:		
G. Amsinck & Co.	6,500	
Meyer Hecht	1,500	
American Trading Co.	1,500	
J. Brandon & Bros.	1,500	
Kunhardt & Co.	1,000	
C. E. Kenchatt.	1,000	
A. Hild	700	
T. A. Pauli & Co.	700	
D. A. De Lima & Co.	500	
Andreas & Co.	500	
Wessels, Kulen, Kamp Co.	500	15,000
JAN. 5. By the <i>Esperanza</i> =Mexico:		
Harburger & Stack	4,000	
H. Marquardt & Co.	2,500	
Wilson Trading Co.	500	7,000
JAN. 7. By the <i>Etruria</i> =Liverpool:		
Poel & Arnold	8,000	
JAN. 7. By the <i>Washington</i> =Tampico:		
Edward Maurer	56,000	
New York Commercial Co.	22,500	78,500
JAN. 7. By the <i>Virgil</i> =Bahia:		
Adolph Hirsch & Co.	9,000	
J. H. Rossback & Bros.	9,000	18,000
JAN. 7. By the <i>Virginia</i> =Colon:		
Hirzel, Feltman & Co.	8,000	
L. Johnson & Co.	2,200	
A. M. Capen Sons.	2,000	
G. Amsinck & Co.	3,500	
A. Rosenthal & Sons.	1,000	16,700
JAN. 7. By the <i>Proteus</i> =New Orleans:		
Manhattan Rubber Mfg. Co.	1,000	
Eggers & Heinlein.	500	1,500
JAN. 8. By the <i>Panama</i> =Colon:		
R. Idan & Van Siekle.	7,600	
Dunsmuir Bros. & Co.	7,300	
G. Amsinck & Co.	3,400	
A. Santos & Co.	2,000	
Piza, Nephews & Co.	2,000	
Andean Trading Co.	2,200	
L. Johnson & Co.	1,600	
Hirzel, Feltman & Co.	1,500	
National Sewing Machine Co.	1,500	
George A. Alden & Co.	1,200	
Pablo, Calvert & Co.	800	
Isaac Rubie & Co.	500	32,700
JAN. 9. By the <i>Siberia</i> =Colon:		
Kunhardt & Co.	3,000	
Joaquin Ferro	1,000	
Graham, Hinkley & Co.	500	
G. Amsinck & Co.	500	5,000
JAN. 11. By the <i>Matanzas</i> =Tampico:		
Poel & Arnold	4,500	
Edward Maurer	1,000	
Harburger & Stack	1,000	6,500
JAN. 12. By the <i>Monterey</i> =Frontera:		
Harburger & Stack.	2,000	

CENTRALS—Continued.

I. Steiger & Co.	2,000	
H. Marquardt & Co.	1,500	
Graham, Hinkley & Co.	1,000	6,500
JAN. 14. By the <i>Prins Jozeph</i> =Colon:		
Hirzel, Feltman & Co.	5,500	
L. Johnson & Co.	2,000	
G. Amsinck & Co.	2,000	
E. B. Straub	2,500	
A. M. Capen Sons.	1,500	
Mecke & Co.	1,500	
A. Rosenthal & Sons.	1,000	
Bottling & De Leon	500	
European Optics	1,500	18,000
JAN. 15. By the <i>Prins Jozeph</i> =Colon:		
J. Brandon & Bros.	3,000	
G. Amsinck & Co.	2,500	
Escobar & Gonzalez	1,500	
Kunhardt & Co.	1,500	
D. A. De Lima & Co.	1,500	
A. A. Lindo & Co.	500	
Lozano & Whitney	500	10,500
JAN. 16. By the <i>Chaparral</i> =New Orleans:		
A. G. Morse & Co.	3,500	
Legros & Hurlbut	3,500	
G. Amsinck & Co.	1,000	5,500
JAN. 16. By the <i>Cruzeiro</i> =Bahia:		
New York Commercial Co.	25,000	
A. D. Hitch & Co.	14,000	
Adolph Hirsch & Co.	9,500	
J. H. Rossback & Bros.	4,500	53,000
JAN. 18. By the <i>El Alca</i> =Galveston:		
Continental Mexican Co.	50,000	
JAN. 18. By the <i>Empress</i> =Colon:		
Hirzel, Feltman & Co.	8,000	
G. Amsinck & Co.	8,500	
Jose Julia & Co.	3,000	
Dunsmuir Bros. & Co.	2,500	
Rohlan & Van Siekle	2,000	
L. Johnson & Co.	2,000	
Meyer Hecht	1,500	
Mann & Emdon	7,500	
R. G. Borthold	500	35,500
JAN. 21. By the <i>El Moro</i> =New Orleans:		
A. N. Rotholz	6,500	
A. G. Morse & Co.	3,500	
Manhattan Rubber Mfg. Co.	3,500	13,500
JAN. 21. By the <i>Yumuri</i> =Tampico:		
Continental Mexican Co.	70,000	
Edward Maurer	30,000	
F. J. Lawton & Co.	7,000	
H. Marquardt & Co.	1,500	
Graham, Hinkley & Co.	500	109,000
JAN. 21. By the <i>Compania</i> =Liverpool:		
General Rubber Co.	7,000	
JAN. 21. By the <i>Colon</i> =Colon:		
Mann & Emdon	6,000	
G. Amsinck & Co.	3,500	
E. B. Straub	2,000	
Sanz & Co.	1,500	
Andean Trading Co.	1,500	
Jose Julia & Co.	1,500	
J. Brandon & Bros.	1,000	17,500
JAN. 21. By the <i>Minneapolis</i> =London:		
General Rubber Co.	15,000	
JAN. 22. By the <i>Prins Ethel Frederik</i> =Colon:		
Hirzel, Feltman & Co.	3,500	
G. Amsinck & Co.	3,500	
E. B. Straub	2,500	
A. Rosenthal & Sons	2,500	
A. M. Capen Sons	1,500	
L. Johnson & Co.	1,000	14,000
JAN. 23. By the <i>Umuera</i> =Pernambuco:		
A. D. Hitch & Co.	4,000	
AFRICANS		
DEC. 24. By the <i>Pennsylvania</i> =Hamburg:		
A. G. Morse & Co.	50,000	
General Rubber Co.	23,000	
Poel & Arnold	15,000	
George A. Alden & Co.	6,000	
Robinson & Stiles	5,000	109,000
DEC. 24. By the <i>Amorcha</i> =Hamburg:		
A. G. Morse & Co.	2,500	
General Rubber Co.	11,500	
George A. Alden & Co.	9,000	43,000
DEC. 24. By the <i>Kronland</i> =Antwerp:		
W. L. Gough & Co.	2,200	
Robinson & Stiles	15,000	
Poel & Arnold	8,000	
A. G. Morse & Co.	5,000	
Rubber Trading Co.	4,500	55,500
DEC. 26. By the <i>Bark</i> =Liverpool:		
General Rubber Co.	40,000	
George A. Alden & Co.	15,000	
A. G. Morse & Co.	15,000	
Poel & Arnold	11,500	81,500

AFRICANS—Continued.

General Rubber Co.	10,000	
George A. Alden & Co.	5,000	
Rubber Trading Co.	4,000	
DEC. 27. By the <i>Prins Jozeph</i> =Colon:		
Poel & Arnold	4,000	
General Rubber Co.	4,000	
A. G. Morse & Co.	4,000	
George A. Alden & Co.	4,000	
W. L. Gough & Co.	4,000	
A. W. Brunn & Co.	4,000	
Henry A. G. Co.	4,000	
Rubber Trading Co.	4,000	40,000
DEC. 31. By the <i>Compania</i> =Liverpool:		
General Rubber Co.	7,000	
George A. Alden & Co.	5,000	
A. G. Morse & Co.	5,000	
Livesey & Co.	5,000	
DEC. 31. By the <i>Empress</i> =Colon:		
George A. Alden & Co.	11,500	
Poel & Arnold	11,500	
A. G. Morse & Co.	11,500	
Rubber Trading Co.	11,500	
Western Electric Co.	11,500	
General Rubber Co.	11,500	
Joseph Cantor	11,500	115,000
JAN. 8. By the <i>Shimoda</i> =Singapore:		
George A. Alden & Co.	11,500	
W. L. Gough & Co.	11,500	
Heahler & Co.	11,500	
E. K. Muller & Co.	11,500	
Poel & Arnold	11,500	
H. Ranli & Co.	11,500	
Winter & Smilie	11,500	115,000
JAN. 21. By the <i>Waldenfelz</i> =Colon:		
A. G. Morse & Co.	8,500	
JAN. 21. By the <i>Philadelphia</i> =London:		
A. G. Morse & Co.	6,500	
JAN. 22. By the <i>Minneapolis</i> =London:		
General Rubber Co.	20,000	
JAN. 2. By the <i>Butana</i> =Hamburg:		
A. G. Morse & Co.	10,000	
Poel & Arnold (Almedina)	7,000	
Poel & Arnold	12,000	
W. L. Gough & Co.	3,500	
George A. Alden & Co.	3,000	49,500
JAN. 2. By the <i>Victoria</i> =Liverpool:		
W. L. Gough & Co.	9,000	
A. W. Brunn & Co.	7,000	16,000
JAN. 5. By the <i>Patricia</i> =Hamburg:		
A. G. Morse & Co.	6,000	
JAN. 7. By the <i>La Bretagne</i> =Havre:		
General Rubber Co.	25,000	
JAN. 7. By the <i>Etruria</i> =Liverpool:		
Poel & Arnold	7,000	
Raw Products Co.	2,500	9,500
JAN. 9. By the <i>Finland</i> =Antwerp:		
Joseph Cantor	22,500	
Rubber Trading Co.	6,500	
W. L. Gough & Co.	7,000	36,000
JAN. 11. By the <i>Celta</i> =Liverpool:		
George A. Alden & Co.	13,500	
A. W. Brunn & Co.	1,500	
Poel & Arnold	3,500	22,500
JAN. 12. By the <i>Georgia</i> =Liverpool:		
A. G. Morse & Co.	11,000	
George A. Alden & Co.	4,500	15,500
JAN. 14. By the <i>Carmania</i> =Liverpool:		
George A. Alden & Co.	27,000	
Livesey & Co.	12,000	
General Rubber Co.	12,000	
Robinson & Stiles	2,500	53,500
JAN. 14. By the <i>Sarobe</i> =Havre:		
A. G. Morse & Co.	11,500	
George A. Alden & Co.	1,500	
Poel & Arnold	7,000	
General Rubber Co.	3,500	23,500
JAN. 15. By the <i>Hude</i> =Havre:		
Poel & Arnold	17,000	
George A. Alden & Co.	45,000	
C. P. dos Santos	60,000	
Livesey & Co.	7,000	129,000
JAN. 16. By the <i>Pratia</i> =Hamburg:		
A. G. Morse & Co.	27,000	
JAN. 17. By the <i>Acilia</i> =Hamburg:		
General Rubber Co.	17,500	
A. G. Morse & Co.	36,000	53,500
JAN. 18. By the <i>Kaiser</i> =Hamburg:		
A. G. Morse & Co.	27,000	
Poel & Arnold	27,000	
George A. Alden & Co.	36,000	90,000

AFRICANS Continued.

JAN. 11.—By the <i>Campana</i> =Liverpool:	
W. J. Gough & Co.	3,000
Heabler & Co.	2,500
George A. Alden & Co.	11,000
W. J. Gough & Co.	4,500

JAN. 12.—By the <i>Zeland</i> =Antwerp:	
A. G. Morse & Co.	35,000
R.W. Products Co.	7,000

JAN. 13.—By the <i>Alouin</i> =Liverpool:	
George A. Alden & Co.	45,000
General Rubber Co.	11,000

FAST INDIAN

DEC. 24.—By the <i>Sacra</i> =Colombo:	
A. G. Morse & Co.	5,500
L. C. Akron, Ohio	6,000

DEC. 24.—By the <i>Proserpina</i> =Hamburg:	
George A. Alden & Co.	15,000

DEC. 31.—By the <i>Mesaba</i> =London:	
Robinson & Stiles	8,000
General Rubber Co.	7,000
A. G. Morse & Co.	5,000

JAN. 7.—By the <i>South America</i> =Singapore:	
Winter & Smith	11,000
Heabler & Co.	10,000

JAN. 7.—By the <i>Minnetonka</i> =London:	
George A. Alden & Co.	7,000
A. G. Morse & Co.	4,500
Paul & Arnold	3,500

JAN. 7.—By the <i>Schontels</i> =Colombo:	
A. G. Morse & Co.	8,500

GUTTA JELUTONG.

DEC. 24.—By the <i>Pennsylvania</i> =Hamburg:	
Paul & Arnold	275,000

JAN. 7.—By the <i>South America</i> =Singapore:	
Heabler & Co.	150,000
George A. Alden & Co.	125,000
W. R. Russell & Co.	95,000
J. W. Phyfer & Co.	110,000
L. Littlejohn & Co.	55,000
William Tappenback	110,000

EAST INDIANS Continued.

JAN. 8.—By the <i>Shomosa</i> =Singapore:	
H. Rauli & Co.	25,000
Heabler & Co.	325,000
George A. Alden & Co.	150,000
J. W. Phyfer & Co.	55,000
William Tappenback	125,000
D. A. Shaw & Co.	125,000

GUTTA PERCHA AND BALATA.

JAN. 2.—By the <i>Balaria</i> =Hamburg:	
Robert Soltan Co.	7,000

JAN. 7.—By the <i>South America</i> =Singapore:	
George A. Alden & Co.	35,000
Heabler & Co.	10,000
Joseph Cantor	20,000

JAN. 8.—By the <i>Shomosa</i> =Singapore:	
W. L. Gough & Co.	22,000

BALATA.

DEC. 24.—By the <i>Grenada</i> =Trinidad:	
Thibaud Brothers	72,000
G. Amsinek & Co.	5,000

DEC. 27.—By the <i>Korua</i> =Demerara:	
Middleton & Co.	7,000
D. A. De Lima & Co.	3,500

DEC. 31.—By the <i>Mesaba</i> =London:	
W. L. Gough & Co.	4,500

JAN. 11.—By the <i>Maracas</i> =Ciudad Bolivar:	
Thibaud Brothers	6,500
Frame & Co.	1,000
Middleton & Co.	1,500

JAN. 18.—By the <i>Maraca</i> =Ciudad Bolivar:	
Thibaud Brothers	6,500
Middleton & Co.	4,500

JAN. 19.—By the <i>Parima</i> =Demerara:	
Frame & Co.	15,000

JAN. 21.—By the <i>Philadelphia</i> =London:	
W. L. Gough & Co.	18,000

JAN. 21.—By the <i>Minneapolis</i> =London:	
Earle Brothers	11,000

CUSTOM HOUSE STATISTICS

PORT OF NEW YORK—DECEMBER.

Imports:	Pounds.	Value.
India-rubber	7,384,980	\$6,375,015
Gutta-percha	15,420	7,313
Gutta-jelutong (Pontianak)	4,145,515	158,053
Total	11,545,924	\$6,541,281

Exports:	Pounds.	Value.
India-rubber	148,935	\$123,109
Reclaimed rubber	86,497	12,047
Rubber Scrap Imported	2,350,839	\$203,880

BOSTON ARRIVALS

	Pounds.
Nov. 1.—By the <i>Canadian</i> =Liverpool:	
Paul & Arnold—African	4,938

Nov. 7.—By the <i>Bohemian</i> =Liverpool:	
Paul & Arnold—African	11,563

Nov. 9.—By the <i>Savonia</i> =Liverpool:	
Paul & Arnold—African	4,475

Nov. 13.—By the <i>Cestrian</i> =Liverpool:	
Paul & Arnold—African	12,054

Nov. 23.—By the <i>Bosnia</i> =Hamburg:	
W. L. Gough & Co.—Balata	4,481

Nov. 26.—By the <i>Noerdam</i> =Rotterdam:	
George A. Alden & Co.—East Indian	115
Total	37,626

[Value, \$25,169.]

GUTTA-PERCHA.

Nov. 2.—By the <i>Badenia</i> =Hamburg:	
H. Rost & Co.	8,599
Nov. 8.—By the <i>Halifax</i> —	277
Total	8,876

GUTTA-JELUTONG.

Nov. 28.—By the <i>Ferley</i> =Singapore:	
George A. Alden & Co.	676,000

CONSUMPTION OF INDIA RUBBER BY THE UNITED STATES AND CANADA (IN TONS)

[From the Annual Statistical Summary of Albert T. Morse & Co., New York.]

DETAILS.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
Imports to United States...	16420	14643	16182	14333	17671	18020	23005	20468	23208	21842	24760	27623	28635	29936
Exports to Europe	714	391	324	500	250	150	300	450	680	430	490	274	357	1625
Add Stock on Jan. 1st.	15706	14252	15858	13833	17421	18470	22705	20018	22528	21412	24270	27349	28278	28311
Less Stock close of year.	16023	15289	17278	14391	18062	19214	23386	20730	23726	22811	24601	27605	28583	28848
Deliveries to Manufacturers.	15886	13860	16720	13750	17318	18023	22674	19532	22327	22480	24345	27300	28046	28483

OFFICIAL STATISTICS OF CRUDE INDIA RUBBER (IN POUNDS)

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1906	6,600,179	349,300	6,340,870
January-October	53,582,757	2,040,600	50,642,151
Eleven months, 1906	60,272,930	3,280,015	56,983,021
Eleven months, 1905	58,179,800	3,128,286	55,051,514
Eleven months, 1904	55,560,500	3,117,566	52,442,934

GERMANY

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1906	2,887,720	1,355,806	1,531,860
January-October	39,949,380	10,094,480	29,854,900
Eleven months, 1906	33,837,100	11,450,340	22,386,760
Eleven months, 1905	42,222,620	15,687,160	26,535,520
Eleven months, 1904	33,618,200	8,717,720	24,900,480

FRANCE

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1906	1,700,020	2,304,500	504,880
January-October	25,211,340	15,037,460	9,273,880
Eleven months, 1906	26,920,960	18,241,060	8,679,000
Eleven months, 1905	23,691,440	14,783,780	9,207,660
Eleven months, 1904	10,353,840	10,442,000	8,610,880

BELGIUM.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1906	1,464,275	1,983,516	519,241
January-October	17,372,710	12,054,807	4,417,912
Eleven months, 1906	18,836,904	14,938,323	3,898,671
Eleven months, 1905	16,779,760	12,805,227	3,974,560
Eleven months, 1904	16,468,284	14,090,978	2,368,306

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
November, 1906	6,566,672	3,792,880	2,773,791
January-October	55,937,952	20,695,344	26,242,608
Eleven months, 1906	62,504,624	33,488,224	29,016,400
Eleven months, 1905	57,753,136	30,993,536	26,759,600
Eleven months, 1904	51,072,000	30,417,302	20,654,698

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Spécial Commerce.

‡ Net Exports.

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Vol. XXXV. No. 6.

MARCH 1, 1907.

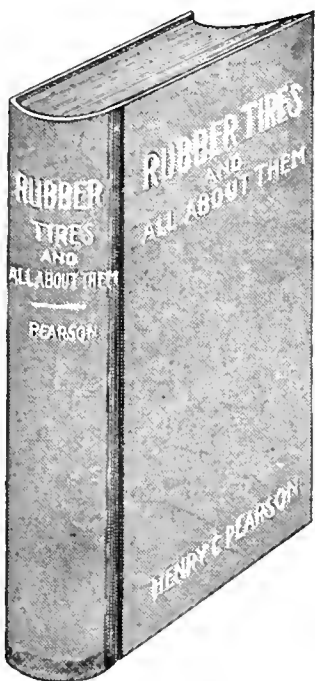
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XXVI.

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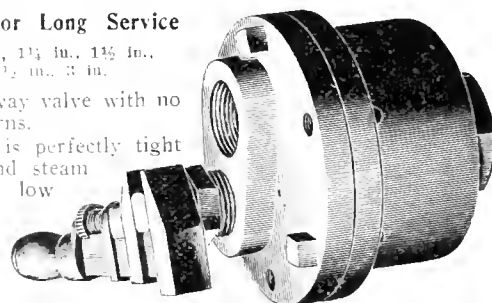
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TABLE OF CONTENTS.

THE Table of Contents of THE INDIA RUBBER WORLD, which for so many years has occupied a place in this column, will be found this month and hereafter on the last page of reading matter.

GUAYULE RUBBER.

THE development of the production of rubber from the so-called "guayule" plant in Mexico has progressed at a more rapid rate than has ever before been recorded in the case of any new grade of rubber, or of any new rubber producing field. The guayule rubber has suddenly become of such widespread interest in the trade that the Editor of THE INDIA RUBBER WORLD has thought it worth while to visit the region producing it, in order to become as thoroughly acquainted as possible with the situation. It is believed that the interest that has been expressed in regard to guayule will justify the amount of space which we have devoted to it.

The new rubber, while different from any other that has been known to the trade, is rapidly being adapted to its needs—something which occurs more readily nowadays than formerly. This fact alone indicates that we live in a progressive age, when an article is not necessarily regarded with suspicion because it is new. Otherwise, it might have been many years before capital would have felt justified in erecting all the guayule factories illustrated in our pages.

But it must be added that guayule rubber could not have been produced so rapidly but for the conditions under which the work is highly concentrated. Some such consideration applies to rubber production elsewhere,

and illustrates the rubber situation in the Far East. For example, is handled in a more concentrated manner than in the forest. As the supply of guayule is not so great, the supply of other rubbers need fear no competition from this product. Indeed, the price of some every new rubber that comes to the market is

THE QUALITY OF PLANTATION "HEVEA."

RUBBER planters in the Far East and the ever capable scientists who are deeply interested in the production of crude rubber from cultivated sources are deserving of much praise in that they have really proved that rubber can be, and is, cultivated on a large scale. That it is financially a success is also proved by the premiums at which shares in rubber planting companies are sold. Considering the youth of the plantation problem in the sections under consideration, the volume of rubber is exceedingly satisfactory. To the rubber manufacturer, however, the quality of the product as compared with Pará rubber from the Amazon is very unsatisfactory. Although they use this rubber in increasing quantities, the complaint arises that the product is very uneven, that the fiber is in many cases exceedingly short, and that almost every shipment contains some weak rubber, that is, exceedingly weak.

The planters were, and doubtless still are, anxious to put a product upon the market that will be the best in the world and that will be so staple that a parcel bearing the name of a given plantation will find a ready sale because the purchaser will know, without sample being submitted, about what to reckon on for shrinkage and what for tensile strength. The shrinkage question has been very successfully dealt with, but tensile strength and lasting qualities are not yet what they should be. In other words, no wise manufacturer to-day, leaving out the question of interest on investment, would dare to buy 50 tons of cultivated *Hevea* rubber and store it for six months, because he would be afraid of the very appreciable deterioration in quality. On the other hand, he would buy thousands of tons of upriver fine Pará and store it with a full knowledge that it would not grow worse in storage, but would grow better.

Now, it is perfectly possible that one reason for the difference between smoked wild rubber and the scientifically gathered cultivated rubber lies in the age of the trees. It is, however, equally possible that the whole matter comes down to the question of coagulation. The native gatherers up the Amazon expose a thin film of latex to heat and smoke. The result is that the latex is not only coagulated but the film is dried and perhaps very slightly *vulcanized*, so that if this is thoroughly done the rubber remains hard and impure to any ordinary storage changes for years.

It would seem, therefore, that with this knowledge as a basis, the planters in the Far East have an opportunity

to do away with their present method of coagulating and adopt one, even if it is a smoking process, that will produce a stronger, and above all, a more stable product. It would not by any means of necessity be a process of hand dipping such as is used up the Amazon, as a very simple mechanical process, continuous and economical, could easily be devised, first, to produce films of latex, and secondly, to cure them. Another thing: 95 per cent. of the rubber manufacturers would infinitely rather have cultivated rubber of a dark mahogany color, if in quality it was equal to upriver fine, than to have it a beautifully transparent product, but weak.

WHY SCRAP RUBBER IS DEAR.

THE recent marked advances in the cost of waste rubber not unaturally have revived suggestions for the regulation of prices. But there is little in the history of the trade to support the idea that regulation is practicable, however desirable fixed prices at lower than the present market might be. It is not reasonable to credit present prices to speculation; the trade in waste rubber has become far too diversified for any sort of artificial price level to be long maintained. The truth is that with the growth of the rubber industry as a whole has been developed an increased demand for reclaimed rubber at a rate which has exceeded the increase in supply of scrap stock. In other words, changed conditions have brought about change in prices, and the situation demands a fuller study than a mere comparison of quotations.

At one period the price of old shoes to reclaimers was steady for a good while at about 3 cents a pound, but the market was dominated then by a combination of consumers, making practically but one buyer in the trade. That condition no longer exists and is not likely ever to be repeated. Since then a number of reclaimers have entered the field, introducing improved processes and improved products, with the result that reclaimed rubber has found many new uses and a vastly increased total consumption. The present use of reclaimed stock in the United States has been estimated to be as large in weight as of new rubber, and there is no important rubber factory abroad in which reclaimed is not used.

Old shoes were first used for reclaiming rubber, and continue to form the most important material for this purpose. Similarly the rubber shoe industry was first to use reclaimed rubber to an important extent. But today reclaimed stock goes into mechanical goods in great volume, into insulation compounds, and so on. The collection of old shoes becomes better organized every year, so that scarcely any are now overlooked in this country or any other, but the same has not become true of many other classes of waste rubber. The reclaimers still depend largely upon old shoes, while reclaimed rubber goes more and more into classes of goods which yield as yet comparatively little in the way of waste stock.

The next development in the trade will lie in the direc-

tion of the wider treatment of scrap other than shoes, thus enlarging the stocks open to reclaimers. This may have the effect of lowering the price level of scrap, but never again to the figure which prevailed ten years ago, when the reclaiming industry was still so small as compared with now.

SYNTHETIC RUBBER DELAYS.

THERE is no doubt that many, or perhaps more accurately, that some believe that the discovery of synthetic rubber is near at hand. Nay! Further than this their faith is that synthetic rubber has already been produced in laboratory experiments, and that its production on a large scale is merely dependent upon the solving of certain mechanical difficulties in manufacture. The men who believe this are not rubber men, to be sure, but are in certain instances, at least, thoroughly capable and successful business men in other industrial lines. Their faith is so potent that they put up hard earned dollars not only to build experimental machinery, but as a rule to keep the breath of life in the body of the discoverer of the great secret.

Now, it may be that one of these discoverers has really discovered—that he has really made rubber synthetically at the rate of a pound, two pounds, or five pounds a month, but isn't it a little bit odd that when the same discoverer is put up against a problem of producing rubber even in ton lots that something always goes wrong? The power plant is lacking in something, the grinders, if they use them, won't grind, the tanks, made of special metal from Germany, fail to arrive—in other words, months and years of delay ensue, and the only thing that is really permanent is the hope of the backer and the salary of the discoverer.

"SCARCITY OF RUBBER."

IN some recent comments on the rubber prospect in Ceylon, Dr. John C. Willis, of Peradeniya, whose work has done so much to encourage the systematic culture of rubber, cautions planters against too great optimism in the matter of continued high prices. No doubt such caution is timely, on the general principle that investors in any line of production are wise not to count for all time on top notch returns. We ourselves see no present indication of materially lower prices for rubber in general, but some reaction from the unprecedently high level of a year or so ago is only natural, and planters should be prepared for a decline if only as a matter of common business prudence.

What strikes us particularly in Dr. Willis' article is his suggestion that the high prices experienced of late have been due probably to a "scarcity of rubber." It follows that if rubber is about to become more plentiful and continue so, there will be an end to large returns for planters. We have pointed out already the general relation of supply and demand for rubber to prices, but how shall "scarcity," as Dr. Willis uses the word, be de-

finer? During each year of late the world has produced more rubber. The total for any one year cannot be stated with exactness, but it is believed that the deliveries to manufacturers in the United States alone have doubled within ten years, and the rate of increase probably has been as great abroad. In other words, while prices have been at the highest point, more rubber has been coming forward than ever before.

There has been no "scarcity" except in the sense that rubber has been in increasing demand to such a degree that consumers have bid for it eagerly at higher than former prices. The question is not alone whether there will be more rubber available, in view of all the planting, that has been done, but whether the demand will continue to grow. We take it that Dr. Willis has seen no indication of decreased demand, so that his comments need not, after all, cause any great alarm.

THE RUBBER FOOTWEAR TRADE WAS referred to in our last issue as if it had experienced a shortage of snow. But before the paper could reach its readers an exceptionally heavy snowfall visited New York and many other parts of the country, which shows that it is not yet safe to prophesy about the weather. But now that the snow has come, it may be recorded that it appeared to drive everybody into "rubbers." It used to be a maxim in the rubber shoe trade that to be of real service a snowfall should happen before New Year. But of late it seems that people will buy rubber footwear when it is needed, regardless of the month. It is safe to say at least that the trade has not been ruined this winter.

THE COTTON SITUATION CONTINUES SO ACUTE as to be of more concern to the rubber manufacturers than the cost of raw rubber. Thus far no suggestion has come forward as to how the situation might be relieved. There is not even in the minds of the trade certainty as to the cause of the cotton stringency. From one source comes the assertion that there is cotton in plenty, but a shortage in spindles and looms. This explanation is good as any until a better one is advanced.

INDICATIONS CONTINUE TO APPEAR of the great extent of the friendly interest with which the late visit of Mr. Root, the secretary of state at Washington, was regarded in each of the South American countries embraced in his tour. We believe that conditions of mutual friendly regard between countries—which are possible only through mutual understanding—are most helpful to closer and more profitable commercial relations. The other extreme is war, which cuts off trade completely. Mr. Root and his government cannot feel otherwise than gratified at the welcome which was everywhere accorded to him, and if his public utterances be accepted in good faith the effect must be the weakening of doubts which have been expressed in Latin America as to the specific intentions of the United States. It may be that increased commerce between North and South will not be an immediate result of Mr. Root's journey, but it undoubtedly has paved the way for the more favorable reception of overtures from this end of the line for a larger trade. After all, it is the merchant who must make trade, and not government officials.

DERESINATED GUAYULE RUBBER.—The various extractors of guayule rubber have done some really remarkable work in extracting the resin, and producing rubber that comes about as near to being resin-free as any on the market. For example, one company has produced guayule containing only 1.06 percentage of

resin, which is less resin than spruce gum. Para rubber contains normally 1.3. This guayule rubber is said to be very transparent, and free from stickiness. At first blush it might be thought, because of the freedom from resin, that the rubber would be equal in quality with fine Para, but that, however, does not by any means follow, as the absence of resin does not necessarily presuppose the toughened fiber, the lasting quality, or even the compounding possibilities that Para rubber possesses. It is, therefore, quite possible that an additional toughening process is needed to bring deresinated guayule up to the standard aimed at. That this can be done is not unlikely, but it must be along the lines, in emulation, that give to Para rubber its extraordinary toughened fiber.

WHO CAN SAY THAT THE GOVERNMENT OFFICIALS don't try to earn their salaries, in view of the vigorous efforts which have been made of late to impose an import duty upon balata coming into the United States? The sole basis for their activity is the fact that "balata" is not enumerated in the Tariff act. But neither is pontianak gum, of which vastly more is imported; nor is guayule rubber—but we don't care to cut out too much work for the collectors of customs.

THERE ARE INDICATIONS ON EVERY HAND of the prosperity of the india-rubber industry, not the least convincing of which is the fact that it is nowhere disputed. But we wonder if it has occurred to any one before that a very decided indication is the lack of activity of the rubber manufacturers' associations? Somehow or another these organizations never seem to get busy except when the trade is thought by at least some of its members to be in a lull way.

IT IS NO WONDER THE RUBBER TIRE INDUSTRY is so active on this side of the Atlantic, when it is considered that there are more automobiles registered in New York alone than in any European country, and there are forty-four other states in which the number of automobiles is increasing constantly.

MORE RUBBER CENSUS FIGURES.

IN the last two issues of THE INDIA RUBBER WORLD have appeared details of the india-rubber industry in the United States, derived from the 1905 census of manufactures, the figures relating to the calendar year 1905. From additional census bulletins now on hand it is possible to supply like details for three additional states, practically completing the list of states in which the rubber industry is carried on:

	NEW YORK.	OHIO.	PENNSYLVANIA.
Number of factories,	55	27	13
Capital,	\$4,752,250	\$11,054,287	\$2,579,606
Salaries paid,	162,953	622,715	102,508
Average number of wage earners,	2,602	4,815	751
Wages paid,	1,113,381	2,318,250	365,601
Miscellaneous expenses,	681,700	1,740,245	306,772
Cost of materials,	4,099,714	10,225,800	1,313,245
Value of products,	8,205,600	15,063,603	2,220,355

New York state will be seen to be a rubber manufacturing state of considerable importance, though the figures given here do not cover the whole rubber industry in the state. For example, the bulletin for New York says: "The value of products for the rubber belting and hose industry increased greatly, but statistics cannot be shown, as only one establishment reported." The total value of products of "Rubber and elastic goods" reported for the state is \$8,205,600, of which \$5,520,805 is credited to New York city.

The growth of the industry has been particularly rapid in Ohio, where the value of products increased from \$7,330,104 in 1900 to \$15,063,603 in 1905. Of the latter figure the share of Akron is \$13,306,074.

THE ACTIVE HEAD OF THE "NATIONAL."

THE National India Rubber Co., Bristol, Rhode Island, on account of the size of the plant, the varied lines manufactured, and the arrangement of the power plant and factory buildings, has always been a difficult proposition to handle successfully and economically. That this is now being done and that it is under the management of Le Baron C. Colt, a nephew of the president of the United States Rubber Co., and son of Judge Colt, is of more than passing interest. Mr. Colt's training for his present position covers a number of years and was of the most severe nature.



LE BARON C. COLT.

Back in 1890, after his graduation from Brown University, he entered the employ of the National India Rubber Co. as a workman by the day, his first experience being in the cloth room, where he got a thorough knowledge of all the varied fabrics used in rubber manufacture. From there he went into the mill room, first as helper, then as mixer, where he learned to handle the grinder with the most expert, and in time was advanced to the calender and in that position finally became an expert calender man.

Thence he went into the cutting room and learned both hand and machine cutting thoroughly. Next he took in the making-up department, and learned with his own hands to make shoes, boots and arctics, and then went into the heater room and spent several months not only running dry heats, but studying the whole subject.

It was about this time that the management appointed Mr. Colt assistant superintendent, which gave him considerable time to devote to the laboratory and to experimental work, for which line he developed unusual fitness. Next, to learn the market for the goods, he went on the road for some time as traveling salesman for the company. In January, 1905, he was appointed agent and general superintendent and at once took hold of the problem of getting order out of the heterogeneous aggregation of buildings and machinery that represented the largest rubber factory, territorially, in the United States. Beginning at the power plant, he consolidated the machinery, built a new calender room, did away with much antiquated machinery, and arranged the whole so that the handling of all goods, either in process of manufacture or finished, was reduced to a very low cost.

Then one by one he reorganized the various departments. He began with the shoe department, for example, and increased its capacity from 18,000 to 30,000 pairs a day. The insulated wire department, which was off at a distance, was brought into one of the main factory buildings and the output increased from 60,000 feet to 200,000 feet a day. The same intelligent work was put upon the druggists' sundries department, the mechanical rubber goods department, and the clothing and rubber cloth departments. In other words, every department, while it is run as a separate factory, is close to the central power plant and is not only economically operated but the output has been so increased

without adding to the overhead charges that the business is handled more easily and is infinitely more profitable.

Mr. Colt was born in Bristol in 1877, in which city he has his home, his wife being the daughter of Rear Admiral Converse, of the United States Navy.

THE RUBBER STAMP TRADE.

FROM all accounts the rubber stamp trade in the United States appears to have been in an exceptionally satisfactory condition during the past year, and it continues so at the present time. There is reported an increasing demand for all kinds of goods embraced under this heading, with the result that stamp makers have been able to obtain better prices than at some periods in the past. In keeping with other rubber products, stamp rubber has been advancing in price, until the figure is probably higher now than at any previous date. One rubber stamp manufacturer informs THE INDIA RUBBER WORLD that on the goods he purchases three distinct advances have been made during the past twelve months.

The increased demand for rubber stamps has kept pace with the general prosperity, in addition to which various causes have contributed to an increased sale of stamps. For instance, the Pure Food law, which went into effect on January 1, provided that all goods in stock in the hands of large or small dealers on December 31, 1906, could be marketed under the original labels if a statement were annexed that the goods were actually in stock on the date named. Dealers generally have found it convenient to use a rubber stamp in affixing this statement, and as there are tens of thousands of dealers in the United States, the demand for stamps from this cause alone has been very marked. The same regulation relates to drugs, proprietary medicines, liquors, etc., as to food. The new law requiring an accurate statement of the contents of food packages becomes fully effective on October 1 next, and until this time the rubber stamps referred to will be in requisition.

The same improvement that has been seen in the rubber stamp trade applies likewise to the trade in rubber type, which of late years has reached very important proportions. Rubber type is used in window signs, in marking goods with prices or descriptive labels, and in various other ways where economy is experienced in its use instead of having cards or labels supplied by regular printers.

The export trade in rubber type has reached considerable importance, but the demand abroad for American made rubber stamps has grown less rapidly. In this respect the competition of German makers has been felt in many quarters. British competition has been less marked, and an American manufacturer asserts that stamps could be exported readily to England.

No estimate exists as to the volume of the rubber stamp trade in the United States, particularly as it is carried on, as a rule, with allied trades. There are a number of houses, however, that are credited with using 500 to 1000 or more pounds each per month of stamp rubber, which would indicate a very considerable total consumption in a year.

There are several firms who make a specialty of the sale of rubber stamp outfits, including vulcanizers and the like, and these report a very satisfactory foreign demand. There is to-day practically no country or colony in which rubber stamps are not used, and in most of them these stamps are made, and the United States have had a good share in supplying the outfits.

In addition to the sale of stamps direct to users, many of the larger concerns sell stamps at wholesale to operators in the trade who solicit orders but do not make their own stamps. Formerly there have been times when these middlemen, in the keen competition for business, have led to the cutting of prices to an unreasonably low level, but of late the active condition of the trade has caused this condition to disappear, and satisfactory prices are the rule throughout the country.

A Journey Through Guayule Land - I.

By the Editor of the India Rubber World

FOREWORD.

THERE is so much of present interest to the rubber trade in Guayule rubber and its production that I am going to break away from all literary precedents and give the solid summary of my trip first and the tale of travel later, beginning with—

DISCOVERY AND DEVELOPMENT.

THAT the so-called "guayule" shrub contains rubber doubtless has been known to the Mexican Indians for centuries. By chewing the bark they were and are accustomed to extract enough rubber in the course of a couple of days to make a small playing ball. Sometimes for this chewing process was substituted the grinding of the bark on a stone matate, and the separation of the fiber by washing it away in running water. The state of Durango seems to have been where this was most frequently done.

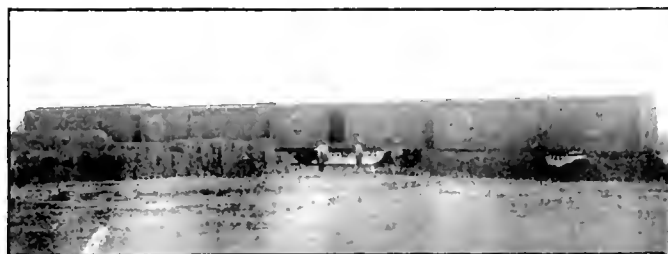


CART LOADS OF GUAYULE SHRUBS

although the process was known all through the uplands wherever the shrub was found. The Aztecs and their descendants probably knew of no other use for the rubber than that mentioned. It was doubtless this process that was noted by the Jesuit fathers, early in the eighteenth century, and mentioned by Dr. Rudolph Endlich in his scholarly essay in *Der Tropenpflanzer* in 1865.

In 1876, among the Mexican exhibits at the Philadelphia Centennial Exhibition, was shown some rubber from Durango that was undoubtedly guayule, although its source was not definitely known botanically.

I think it was in 1880 or 1890 that the late Mr. John H. Cheever, of the New York Belting and Packing Co., told me of a shipment



GUAYULE BY THE TRAIN LOAD.

of a lot of "rubber vine" from Mexico from which he was able to extract a fair percentage of good rubber. He said, however, that so many low grade rubbers were appearing on the market, at so low a price per pound, that it would not pay to work. He did not preserve either samples of the rubber or the bark and knew nothing of its botanical source.

In 1896 Mr. E. Guillermo Vogel wrote me from the city of Mexico to the effect that he had sent small samples of a new

shrub rubber to Mr. H. O. Canfield, who was anxious that they be compounded and vulcanized very well. As he wanted to introduce the rubber on a large scale, and first of all learn its market value, he had been referred by Mr. Canfield to me. He therefore enclosed samples of rubber and of the bark from which it was extracted. He spoke of the product not as rubber, but as a substitute for rubber, and said it was extracted by "pounding or hammering the bark and then boiling it." The sample that he enclosed he said was a year old and had not appreciably softened.

I handed the sample to the late Mr. Robert Cowen, superintendent of the Boston Woven Hose and Rubber Co., and the laboratory report was as follows: "This rubber seems to heat very rapidly and would of course for this reason deteriorate in store. Its value as closely as we can judge from the sample in the condition received is 22 cents a pound." Up-river fine Pará was then quoted at 84 cents.

Reclaimed rubber, various substitutes, and low grade Africans were at that time coming into the market so rapidly that none of the American manufacturers were interested in the Mexican product, and it dropped out of sight.

In 1897 German traders in Mexico many times called attention



BIRD'S EYE VIEW FACTORY NO. 1—CIA. EMPLOYADORA DE CAUCHO MEXICANA, SALTILLO.

to the rubber shrub in the uplands, but even then the trade was not ready to take it up.

In 1899 William Frampolini, an Italian contractor, took out patents for the extraction of rubber from guayule by means of solvents. His apparatus was constructed by a large foundry company in Monterey, and caused considerable newspaper talk, but little else. In 1900 Señor Matías Hernández Sobreros wrote *The India Rubber World* that he would soon start up a factory at San Luis Potosí for the extraction of rubber from the shrub growing in that vicinity, the company to be capitalized at \$500,000.

In 1901 came the first of the Bergner patents. In 1902 there were issued a variety of patents, some of which are said to be of value, but most of them worthless. In 1903 came a Fritz patent, and closely following the first of the Lawrence patents. In this year was established a small factory in San Luis Potosí by Dr. Adolpho Marx for the extraction of rubber from the shrub.

In 1904 came a Delafond patent, together with nineteen others issued to different investigators. It was in this year that the first serious work was done, it getting down to a real extraction of the rubber on a commercial scale. The leaders in this investigation were Dr. Adolpho Marx, Juan Fritz, E. Delafond, C. E. W. A. Lawrence, and many others. All of those named were backed by capital—German, French, Mexican, or American.

In 1905 there were issued fifty two patents for extraction, and to very many of them are appended the names of to-day's leaders in the guayule business. In addition to those named above, who also appear as inventors in this year, are Salvador Madero, F. H. Hunicke, Mauro de la Pena, Francisco E. del Hoyo, Oton Katterfeldt, and others.

It was in this year also that a factory in Germany, backed by large financial interests, for the extraction of rubber from guayule experienced its most profitable run. The shrub was bought, baled, and shipped by Mr. Oton Katterfeldt, who traversed most of the territory where guayule was known to grow, and who secured many thousand tons at prices that look ridiculously low at the present time. This German enterprise was kept very quiet and must have made much money until in September the Mexican government put an export duty of 15 pesos a ton on the shrub,



REAR OF FACTORY NO. 1—CIA. EXPLOTADORA DE CAUCHO MEXICANA AT SALTILLO.

which, with the freight rates, made further shipments unprofitable.

Then came the incorporation of L'Anglo-Mexicana, the erection of a factory for the Maderos, and a half score of others, and the fruition of the Lawrence experiments in the formation of the Continental Rubber Co.

During the year past, 1906, more progress was made than in all the years previously. There were forty-three patents issued, most of them to names already given as patentees, but it is interesting to note the addition of such names as Edward B. Aldrich, Arthur H. Marks, and Frederick C. Hood.

For the first time, in this year, the rubber manufacturers of the world awoke to the fact that guayule rubber was of great value to them, and began to use it in large quantities. This, of course, greatly stimulated its production and the Mexican companies began to cast an eye to the windward to see how much shrub was in sight. No one claimed an inexhaustible supply, but estimates varied, and the result was that by contract or purchase of the great ranches upon which it grows most of the shrub that is anywhere near profitable transportation was tied up. This has meant the purchase of many great estates, and often the erection of extraction plants in little known sections of the republic.

GUAYULE BOTANICALLY CONSIDERED.

BACK in 1876 Mr. Fernando Altamirano described the guayule shrub as of the genus *Cynanchum*, of the natural order *Asclepiadaceæ*. Later it was often referred to as the *Synanthereas Mexicanas*. It was, however, finally identified as the *Parthenium argentatum* (A. Gray.)

It is the only rubber producer known so far belonging to the *compositæ*. It has no latex, the rubber being chiefly in the cells of the bark, a little in the wood, and none at all in the new shoots or leaves. The bark also contains balsam like resins, which are extracted with the rubber and are the cause of its softness and stickiness as compared with fine Pará, for example. A shrub so

similar to the genuine guayule that it is often mistaken for it is called by the natives "mariola," and by the botanists *Parthenium incanum*. This is three times as plentiful as guayule, and while it possibly contains 1 per cent. of rubber, will not at the present state of the art pay for extraction. Guayule gatherers recognize the plant that they seek by its invariable habit of coming up as a single stalk and then branching, while the mariola branches at the roots under the ground.

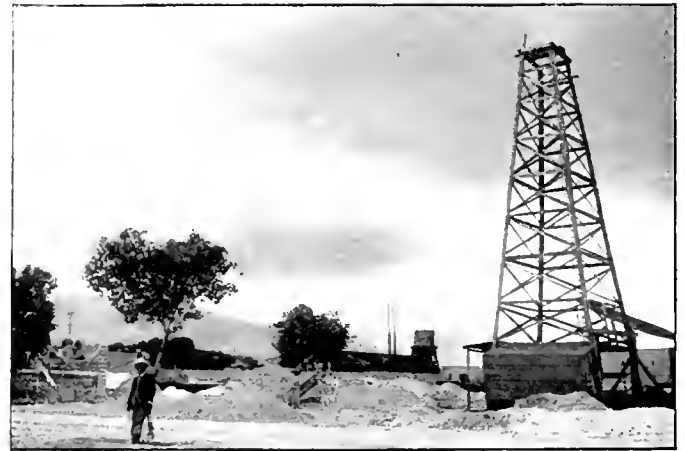
The guayule blossoms normally in September or October, but has a curious habit, so it is said, of putting off efflorescence until a shower comes, and then blooming and seeding. The rains are very infrequent and the rainfall measures only 3 or 4 inches annually in the sections where the plant grows, so that the seed crop often fails.

The shrub grows in extreme cases to the height of 3 feet, with many branches, these plants weighing as much as 3 or 4 pounds. The average height, however, is about a foot, and a pound weight per plant is generous. In cutting or pulling, the gatherers are not allowed to take any shrub that has a stalk less than $\frac{3}{4}$ inch in diameter at the base.

The shrub grows at an altitude of from 3,000 to 6,000 feet, and seems to flourish on sloping ground among the foothills of the mountains, and almost invariably where lime is present in the arid soil. It is a slow grower, the shrub now being treated showing an age of from 10 to 20 years, as nearly as can be estimated.

The name guayule (pronounced y-u-le) is, according to Dr. Endlich, derived from a Spanish word, *hay* (there is), and the Indian word for rubber, *hule*.

The best Mexican shrub contains from 8 to 10 per cent. of rubber, while that from Texas is said to contain from 5 to 8 per cent.



BEGINNING FACTORY NO. 2—CIA. EXPLOTADORA DE CAUCHO MEXICANA, AT SALTILLO.

Described in brief, guayule is really a dwarf tree, and where it is abundant averages about 1½ feet in height. The wood is very hard, of a yellow-green color, and the bark gray on the outside and quite thick. The shrub has a thick, stubby trunk, which throws out many branches, the leaves being lanceolate, toothed at the edges, and of a silver gray color. The light yellow buds are at the end of the long stems, and as the plant belongs to the *compositæ* the talk about male and female plants which some prospectors indulge in is not worth considering.

WHERE GUAYULE GROWS.

THE home of guayule, that is where it is known to grow in greatest abundance, is in the states of Zacatecas, Nuevo Leon, Coahuila, Durango, and Chihuahua. It is also known to exist in Sonora and in the parts of Texas adjacent to that state. The report that it was found on the slopes of the Andes south of the equator is denied by a gentleman whom I met in

Mexico, and who traveled thousands of miles through the mountainous districts specifically to discover if the plant grew there.

AVAILABLE SUPPLY.

For several reasons it is most difficult to determine exactly how much of the shrub there is available for manufacture. In the first place, it has been so confused with mariola that honest investigators who believed that they had located a territory on which grew say 10,000 tons, found later that there was actually anywhere from 500 to 600 tons only.

Then, again, the heads of the extraction companies, in giving figures as to amounts of shrub in sight, invariably set their own supply as very large, but cannot bring themselves to think that the other fellow has any considerable amount.

Again, there are areas not yet definitely known. The state of Sonora, for example, contains the shrub, but until the Yaqui Indians are conquered no one is likely to profit by it. Then, too, there is considerable in Texas. How much, few, if any, know and they don't tell. Report has it further that Lower California is rich in the shrub, but that is seriously doubted by the experts, because the climatic and topographical conditions do not appear to be favorable.

However, Otto Katterfeldt, who ought to know, claims that there are about 480,000 tons that can be profitably worked. Dr. Endlich thinks there are 375,000 tons. From my own figures, gathered with much care, I should put 300,000 tons as a conservative figure.

From 20,000 to 30,000 tons of the shrub have already been ground up—so it is estimated. Of the shrub that can be profitably gathered there is only about 20,000 tons still uncontracted for, and that is held at so high a figure that no extractors are at present interested.

REPRODUCTION AND CULTIVATION.

ONE of the early suggestions that related to guayule was that it might be cultivated on a large scale, both in the United States and Mexico, and indeed, in arid lands all over the world. For this reason the growth of the shrub in its native habitat has been very carefully studied. One thing that is noted almost at once is that it grows very unevenly—in some places in thick clusters, said to be where cattle and goats have lain, in other places in straggling clumps quite a distance from each other. The seed is exceedingly small and apparently germinates reluctantly and the young plant grows very slowly. This, no doubt, is due in part to the lack of water, and were the calcareous foothills situated where irrigation were possible it might be forced. It is very strongly asserted in Mexico, however, that the forcing of the plant, while producing a rapid growth, does not build bark that contains any particular percentage of rubber.

Quite close to the Madero factory at Parras is a patch of land

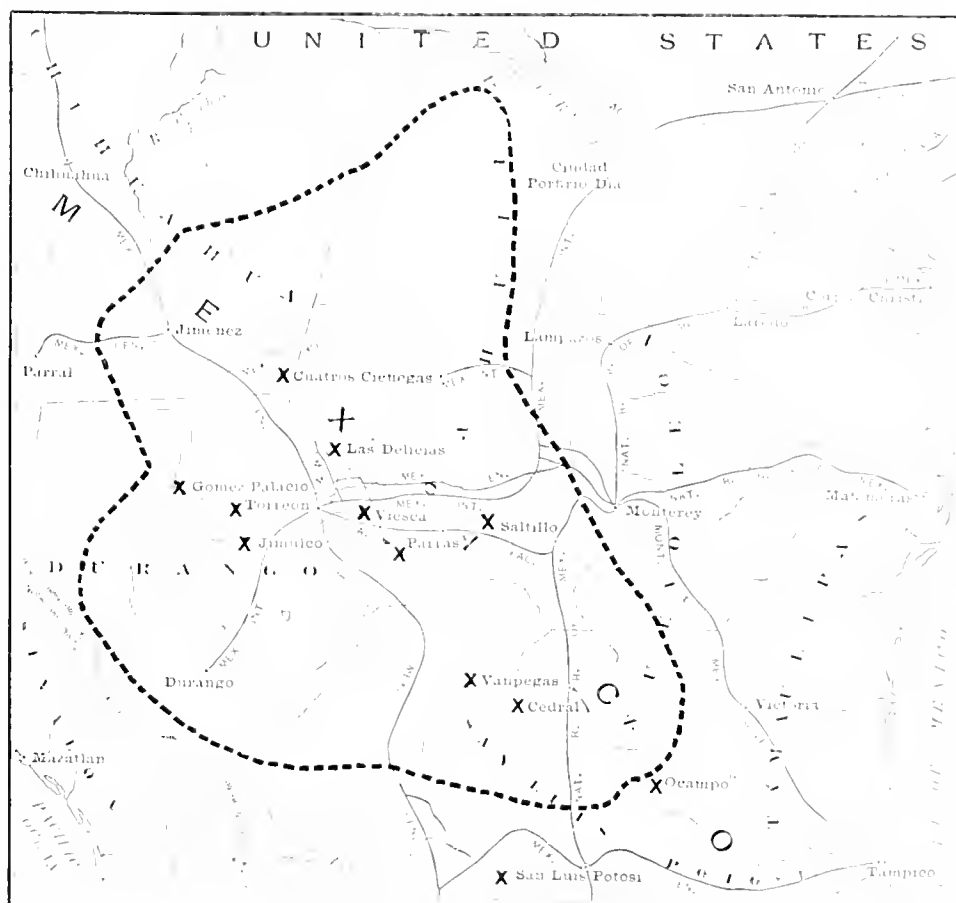
in which guayule was planted a year ago. They sprouted, but to-day the plants bare the surface of the ground. It is possible that this was not a fair test, as no guayule grows quite in that locality any longer, and the soil is perhaps not adapted for it. Investigators have asked many questions of natives and the miners who have denuded fields of guayule and used the shrub in smelting, but so far the figures are of little value, some claiming that the plant renewed itself and again clothed the fields as thickly as before in 25 years, others saying 15 years, and some bring it down to 5 or 6. One of the keenest observers of guayule believes that in 5 years the guayule area will again be ready for gathering, and he adduces what seems to be good proof for his position.

Guayule transplanted to other climates has not so far been successful. For example, the experiment of the Berlin botanical gardens came to nothing, while the seed sent to German East Africa sprouted, but the plants had a very sickly look and did not appear thrifty. While I was in Mexico a scientist from one of the government agricultural experiment stations in Texas was in the uplands gathering guayule plants with the idea of trying an experiment of grafting them on the roots of the Texas guayule, and thus increasing the rubber product of the latter plant.

By the way, the story is that even the genuine guayule divides itself into two grades, the shrub that "buds white," having but 6 per cent of rubber in it, while the black has from 10 to 11 per cent.

EXTRACTING GUAYULE RUBBER.

There have already been published lengthy descriptions of



MAP OF THE MEXICAN GUAYULE DISTRICT.

The heavily dotted line bounds the area richest in guayule shrubs. The towns at which guayule factories are located are indicated by a heavy X. They are:

GOMEZ PALACIO,	VIESCA,	SAN LUIS POTOSI,
TORREON,	PARRAS,	OCAMPO,
JIMICO,	SALTILLO,	VANPEGAS,
CEDRAL,	CUATROS CIENEGAS,	LAS DELICIAS,

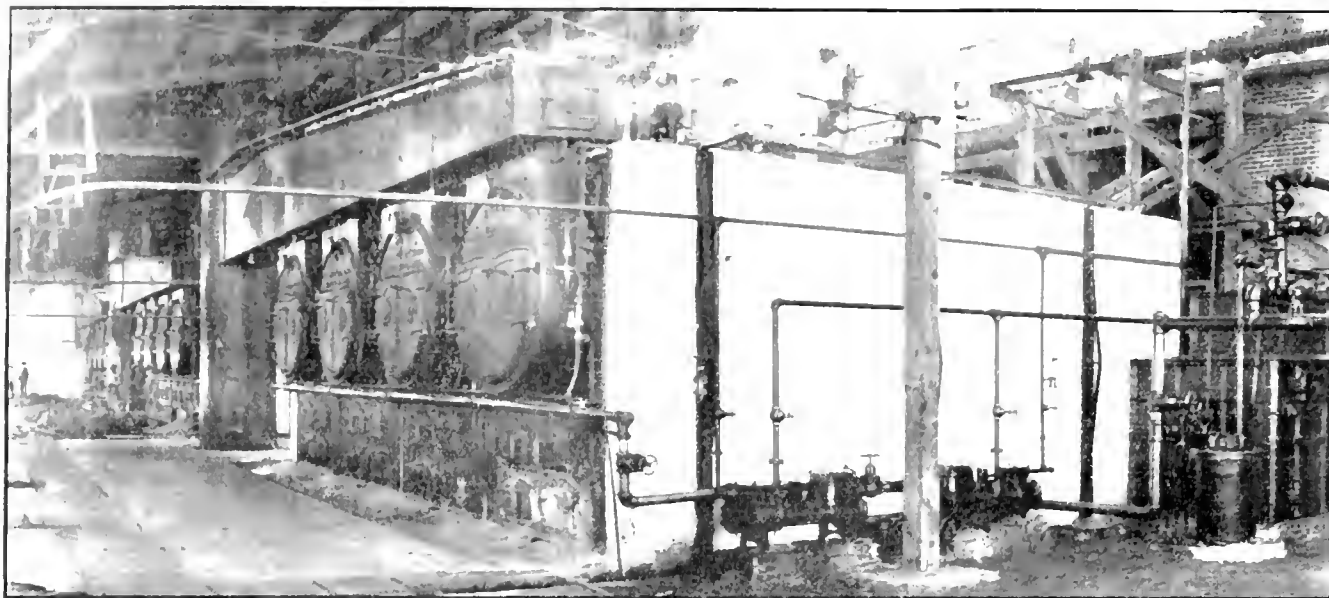


FIG. 3. PLANT OF THE CONTINENTAL FACTORY, TORREON.

various guayule processes. It is safe to say, however, that none of them as a whole is in use to day, and many of them never went beyond the experimental stage. Speaking generally, the extraction of the rubber resolves itself into two processes: One that is purely mechanical, and another that is partly mechanical and partly chemical. Both of these have been got down to quite a simple basis, and the early attempts for extraction by means of such solvents as bisulphide of carbon have been given up.

GUAYULE RUBBER EXPORTS FROM MEXICO

	Pounds
Price of total year 1905-06 (estimated)	500,000
First year 1905-06. Considering the increase in total exports (compared) over preceding years	2,200,000
July 1 to December 31, 1906. Based on New York Herald's giving Europe 35 per cent of total	2,700,000
January, 1907. (Estimated)	700,000
Total	6,100,000

The extracting plants for guayule are only twenty in number; that is, when you count all those in operation, those that have

been running but are now shut down, and several factories that are now in process of construction. The bulk of the business is done by three large companies, controlled by interests that are briefly known as the Continental, the Madero, and the Anglo-Mexicana.

The Continental (Continental Mexican Rubber Co.) at the present time seems to be consolidating everything at their great plant at Torreon. They own other factories, however—one at Saltillo, another at Ocampo, and the two factories that came with their purchase of the Pena interests, one at Gómez Palacio and the other at La Granidora. They own the Delafond, Lawrence, Humcke, Aldrich, Baconnier, Martin, Pena, and other patents. The present product of their factory at Torreon is 8 tons of rubber per day. Of the great properties that they own one is the hacienda Santa Catalina y Arrepas, commonly known as "Del Rio," and they have recently purchased also the Cedros hacienda containing some 2,000,000 acres and much shrub.

The Madero interests comprise their original manufacturing company, which is Compania Explotadora Coahuilense S. A., has its headquarters at Parras, on the Coahuila and Pacific division of the Mexican Central railway. The company is owned by the

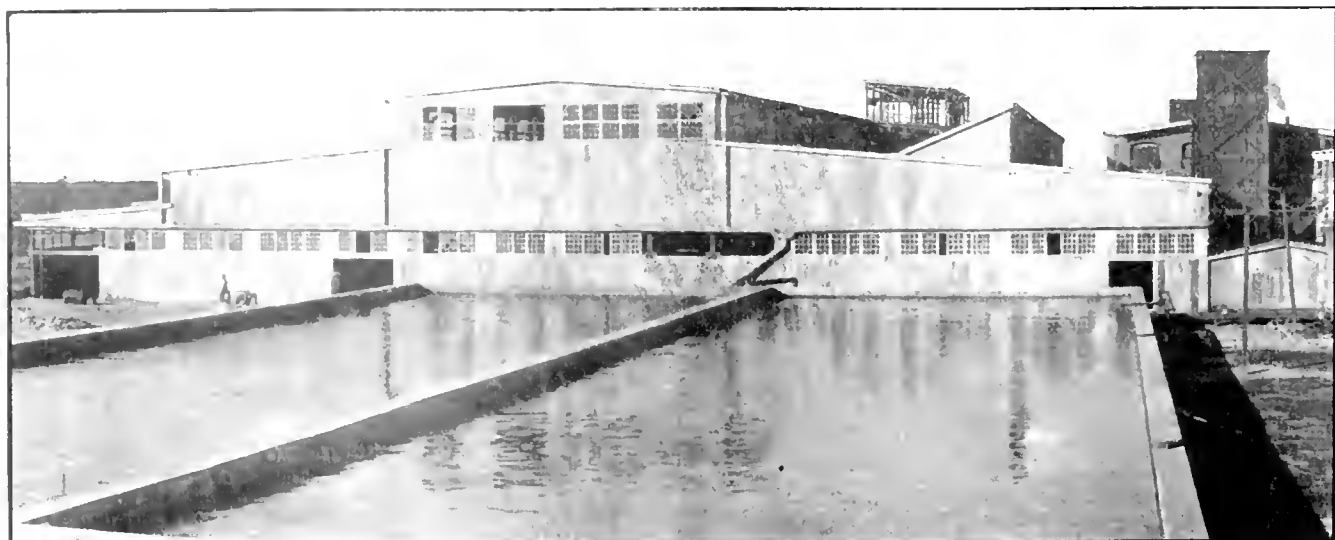


FIG. 4. PLANT OF THE CONTINENTAL FACTORY, TORREON.

Madero family, the officers being Salvador Madero, president; Ernesto Madero, vice president; Francisco Madero, secretary; Gustavo A. Madero, treasurer; Domingo Valdes Llano, general manager, and Elliott W. Knight, superintendent. They have one factory in operation at Parras, Coahuila, and two others in process of construction. One of these is at Las Delicias, Coahuila, which will be running in June, and another at Cuatros Ciénegas, Coahuila, which will be in operation early in April. They claim for the three factories named tons of shrub as follows:

Parras	60,000 tons.
Las Delicias	20,000 tons.
Cuatros Ciénegas	20,000 tons.

They further claim that this company and another Madero company have in sight and control 130,000 tons of shrub. Further than this they have a concession from the state of Zacatecas for erecting extracting plants on the state lands. The Maderos are very large land owners, their guayule land holdings amounting to 300,000 odd acres. They own also the hacienda del Calabazal in Zacatecas and are in partnership with the Hacienda de Las Delicias S. A. and the Compania Ganadera de la Merced S. A. at Cuatros Ciénegas. Salvador Madero has also formed a partnership with Francisco del Hoyo, who owns the hacienda San Tiburcio, where it is claimed there are 70,500 tons of shrub. This is to be operated under the name of Salvador Madero y Cia. S. en C. Early in May this company will have a factory established at Vanegas, San Luis Potosi.

The third large interest is the Compania Explotadora de Caucho Mexicana, known formerly as L. Anglo-Mexicana. This company at the present time has factories in operation at Saltillo, where Mr. H. G. Gunther is manager, and at Jimuleo, where Julian Fritz is manager. A third factory is being erected at Saltillo, near the present plant. Dr. Adolpho Marx, S. en C., with headquarters in Mexico City, is partner and general manager of the business. Foreign partners are said to be the Dresdner Bank, Berlin, the great Harburg-Wien Rubber Co., and other German capitalists. It is gossiped that this company also practically controls some of the small plants which claim that they operate independently. It also owns the Prampolini, Bergner, Fritz, Marx,

There are in Torreon, in addition to the Continental company, four small factories: (1) that of Charles J. McGregor, which is run as a private enterprise; (2) the International company (La Internacional Mexicana Compania Guayulera, S. A.), of which A. L. Valdespino is the president; (3) the Torreon Rubber Manufacturing Co., in which Schweiss & Co., large hardware dealers, are interested, and (4) the Delafond Rubber Co., owned by San Francisco people, but not now in operation. At Gomez Palacio, not far from Torreon, is the factory of the National Rubber Co. This is owned by Texas capitalists, the officers being Otto Koehler, president; Otto Wahrmond, vice president, and William Magenau, general manager. There is also the factory of Oton Katterfeldt in the same town, and a factory soon to be established by Torres and Valdespino.

At San Luis Potosi there is the factory of the Guayule Rubber Co., of which W. O. Franklin is the president and general manager, and a factory of the Moctezuma Rubber Co. Two other



DRYING ROOM IN THE GUAYULE FACTORY

factories are planned for this section, one for the International Guayule Rubber Co., and one for parties not yet named.

THE PATENT QUESTION.

UNDER Mexican laws anyone is granted a patent for anything without examination or protection. To enjoy its benefits and shut others out the granted patent must be examined and its novelty certified to by the government. If this is done he is protected; if the examiner reports no novelty the public is free to make use of the machine or process claimed. There is, however, the opportunity of appeal in lesser courts, and up to a supreme court in case of an adverse decision.

Most of the manufacturers of guayule rubber in Mexico claim that of the many patents taken out in the republic none can be protected. Two large companies, however, who have bought many patents and taken out others, are equally firm in their conviction that their patents at least are good and are prepared to put up all the money necessary to back up their opinion.

GUAYULE IN THE RUBBER FACTORY.

RUBBER manufacturers were somewhat afraid of guayule when it first appeared on the market because of its softness and its slow vulcanizing qualities. They have, however, by learning to use the rubber, overcome most of the apparent difficulties and find it available for a great many types of goods. For example, it makes an exceedingly strong hard rubber, although it must be combined with a better grade of rubber. It, however, gives a gloss to ebonite that makes very beautiful goods. In mechanical goods, and, indeed, in all soft rubber work, it needs the addition of ingredients that are of a drying nature. For this reason it works exceedingly well with the dryer and harder types of reclaimed rubber, and with such intractable gums as balata.

[CONTINUED NEXT MONTH]



WASHERS IN A GUAYULE FACTORY

and other patents. Just what their supply of shrub is they do not state, but Katterfeldt gives them 50,000 tons.

The Mexican Crude Rubber Co., formerly the Coahuila Mining and Smelting Co., has two factories at Viesca, Coahuila, and are erecting another at Cedral, San Luis Potosi. The company is a Michigan corporation, with a capital of \$1,500,000. They claim to have contracts for 50,000 to 75,000 tons of shrub and to own a large hacienda on which are some 20,000 tons of shrub. The officers are Ralph M. Dyar, president, and W. E. Parker, general manager, both of Detroit, Michigan.

COTTON PRODUCTION AND PRICES.

A PROPOSED INVESTIGATION.

WHAT controls the price of cotton? The United States congress is determined to find out, an inquiry to this end having been introduced by a member from Massachusetts, the leading American state in the cotton goods industry. The effect upon the trade of cotton exchanges will be gone into, but the inquiry will not stop at this. The Southern Cotton Association—composed of growers—is likewise to be investigated.

It may be recalled that at the third annual convention of the Cotton Growers' Association, at Birmingham, Alabama, on January 17 last, its president, Harvie Jordan, asserted that at the time of the first meeting (in 1905) "the price of the great staple crop of the South had been depressed to 60 cents per pound, through the manipulation of speculative influences, and financial wreck and ruin faced the agricultural, industrial, and financial institutions of the South." After reviewing the work of the association and its effect in advancing prices, "in the face of the largest crop ever grown," Mr. Jordan continued: "This association has within two years established a fixed minimum basis of 10 cents a pound for American cotton, and that price is now recognized as unalterable throughout the entire cotton-spinning area of the world."

COTTON IN BRITISH WEST AFRICA.

At the ceremonies attending the opening of the new Liverpool Cotton Exchange, the dominant note of the speaker was that the result of the efforts already put forth for the cultivation of cotton in the British colonies gave promise that the British cotton industry in time would become practically, if not wholly, independent of foreign countries for the supply of raw material. The British Cotton Growing Association, with the support of the Lancashire cotton spinners, has been active lately in promoting cotton culture in West Africa. Britain obtained from her colonies there 1,241,408 pounds of cotton in 1905, against only 14,000 pounds in 1901. The colony of Lagos alone, which supplied 2,834 bales in 1905, produced 5,843 bales of a high quality last year. The Duke of Marlborough and his cousin, Mr. Winston Churchill, M. P. (of the British colonial office), have been particularly active in encouraging the work of the Cotton Growers' Association. But vastly more must be done before Britain's consumption of cotton can be supplied by her colonies, as will be seen by this comparative statement of British imports of cotton:

	1901.	1905.
Total imports—pounds	1,829,710,064	2,203,595,520
From British colonies	38,105,864	51,626,512

This table does not include Egyptian cotton as British grown. India supplied the greater part of the cotton classed here as colonial.

PRODUCTION AND CONSUMPTION.

THE United States Census Bureau has issued a bulletin on the "Supply and Distribution of Cotton," containing some facts of interest in connection with a recent suggestion in these pages that the high prices of cotton are a direct result of the increasing demand for this material, as compared with production.

Dealing with the world-wide position the report says: "During the year [ending August 31, 1906], the production of cotton for factory consumption was about 16,500,000 bales, whereas the consumption was 17,870,137 bales, indicating that the year's growth was inadequate to the requirements of the year by about 1,400,000 bales. The shortage in the production was made good by drawing upon accumulated stocks."

The distribution of the cotton industry is very widespread, and cotton is produced in many countries, but two-thirds of the total supply, it is estimated, is furnished by the United States. The question now, however, is to what extent the world's increasing demand for cotton is to be met by the other producing countries.

The production in Egypt is often mentioned, but this appears not to be increasing. At least, the United States Census Bureau reports that the Egyptian crop for 1905 was 1,180,641 bales (of 500 pounds), while the average for the preceding eight years was 1,216,039 bales.

On the whole, the increase in production of cotton abroad appears to correspond closely to that in the United States, according to the excellent annual publication, "Cotton Movement and Fluctuation" (New York: Latham, Alexander & Co.). It supplies these figures for two periods, twenty years apart:

	1885-86.	1905-06.
United States production—bales	5,984,000	11,048,000
All other countries	2,234,000	4,772,000
Total	8,218,000	15,820,000

The figures given by different statisticians differ somewhat, as might be expected, but all authorities are agreed upon the growth of production of cotton outside the United States. It is to be remembered that cotton was known and widely used before the discovery of America, and that the English cotton industry was established before the United States began to export cotton.

ONE KEMPSHALL GOLF BALL PATENT VOID.

A PATENT on a playing ball (United States No. 761,590) was granted on May 1, 1904, to Eleazer Kempshall, then president of the Kempshall Manufacturing Co. The core of the ball, designed primarily for golf, was built up of a continuous winding, in miscellaneous directions, of cured rubber strip; with hair or fibrous material interspersed in said windings; said strip being continued into tense windings in miscellaneous directions to form a tense layer over the center piece, after which the ball was completed by the addition of a shell. The product was called the "Kempshall flyer click ball," and made at Kempshall Company's factory, at Arlington, N. J.

Subsequently (November 18, 1904) the then secretary of the company, Mr. Royce, filed an application for a patent on the same invention, claiming to be the true inventor, the details of which he had communicated to Kempshall, with no idea that he (Kempshall) would apply for a patent. The examiners in chief at the patent office, upon the proofs submitted, awarded priority of invention to Royce, which decision was appealed from. Commissioner Allen, on a hearing of the appeal, has affirmed the decision of the examiners.

A POPULAR SCIENTIST ON TIRES.

THE scientific editor of the New York *Evening Post* thus discourses on the subject of vulcanizing rubber tires: "The old process was to vulcanize them at the usual temperature—280 degrees. Such a fierce heat did not tend to strengthen the rubber any. One day a bright idea entered a man's head: namely, that if the rubber was allowed to cook slowly it would probably be much more durable and wear longer. This was tried, and it is now vulcanized at a temperature of 40 degrees, taking five hours instead of half an hour at 280 degrees."

Outside the *Evening Post* office it is supposed that vulcanization cannot be accomplished at a temperature below the melting point of sulphur, which is 238° F.

UNCERTAINTY.—Discussing rubber prospects, *The Times of Ceylon* says: "But the question of price is one which rests upon the knees of the gods, and all that we can do is to argue as reasonably as possible from a given set of probabilities and possibilities."

The India-Rubber Trade in Great Britain.

(Continued from page 178.)

It is interesting to note that the system of vulcanizing in a very short space of time at a high temperature, according to the Doughty patent, has amply fulfilled expectations. The patents connected with the process are in the sole possession of the Dunlop company, and it is only in the various works of this company in England, on the Continent, and in Australia that the process is in operation. Without committing myself to the exact accuracy of my figures, I may say that the actual time of vulcanizing is three minutes at, I understand, 370° F. In the case of cycle tire covers, to which it is practically restricted, the whole operation of putting in vulcanizing and taking out occupies only five minutes, and in this matter of saving time the Dunlop company have a decided "pull" over their competitors. When the process was first mooted there were plenty who prophesied disaster, but experience has shown that in the case of such comparatively thin rubber as cycle covers, uniform vulcanization can be effected. For thicker goods it is obviously unsuited, as the outside would be burnt before the inside was vulcanized. I have no knowledge as to whether the utilization of the high temperature process has gone beyond the cover. Of course, in the patents owned by the Dunlop company special reference is made to tires, the plant being designed to produce the cover in the exact form required without its having to be shaped in a ring, as when cured in the ordinary way in a flat mold or on a drum. Whether the combined application of high temperatures and short time generally is protected by the Doughty patent is a point on which I am not clear.

RUBBER gas tubing is largely used in chemical laboratories, and in the majority of cases the quality is the point which is considered before the price. Very few chemical operators know anything at all about the nature of the tubing, and are entirely in the hands of the laboratory furnisher. It is generally recognized that the red tubing is superior to the black, chiefly because the latter goes hard in cold weather and has to be thawed on commencing work on a winter's morning. Evidently such tubing has only been cold cured; when a more desirable process has been adopted it can be made quite equal to the red tubing as regards being affected by changes of temperature. The other day, when in the laboratory of a chemist holding a highly paid and important post, he told me that the red gas tubing which he bought for best quality was not as good as it used to be, soon becoming hard and inelastic. An inspection of the tubing in question aroused my suspicions as to quality, which were amply borne out by a rough analysis showing 68 per cent. of mineral matter. It is very unsatisfactory that tubing like this should be sold as best quality, especially where the purchaser goes to a dealer of repute and is willing to pay for the best article. It is quite probable that the laboratory furnisher knows no more about the nature of rubber goods than his customers do, but as in various other businesses dealers are being held responsible for their statements as to the quality it would seem advisable for those who profess to sell different qualities of rubber goods to be able to distinguish between them. I am not prepared to say what should be the exact limit of mineral matter in best quality gas tubing, but the coloring matter should certainly be antimony sulphide, and not red oxide of iron, nor need there be any barytes present. As regards the diffusion of coal gas through the tubing, it has been shown that this is less in the case of moderately compounded rubber than in the pure rubber and sulphur tubing; so, all things considered, the antimony red steam cured tubing, with a reasonable proportion of zinc oxide, seems to be the ideal tubing.

An analyst writes to the editor of the *London Analyst* to ask what substances he is to look for, as he has to make some analysis of rubber goods. The editor in his reply evidently shirks the amount of work involved in making out a list, and rightly advises the applicant to purchase a book on rubber. I think the analyst in question is in for rather a tough time; evidently he knows nothing about the trade and so will not be able to tell by the class, quality, or look of the goods what substances may pertinently be taken as absent. If he tests religiously for all the substances he sees mentioned in rubber literature as regular or suggested components of rubber goods he will have a herculean task calling for a fee which his client would doubtless consider beyond all reason. With out counting at the probability of the most results being obtained by those who undertake rubber analysis for the first time, there can be no doubt of the advisability of employing an expert in such analysis. It is strange how little trouble people will take in the selection of a chemical consultant, though as in medicine so in chemical analysis there are numerous specialists thoroughly familiar with one particular branch of chemistry and whose fees are often less than those of men who do the work possibly for the first time in their lives. It is impossible for a general analyst to be up to date in the technology of all manufactures, or to lay himself out to undertake every class of work, and the remedy for inefficient work is a greater recognition on the part of individuals of their own limitations. This obtains to some extent at present, analysts engaged more particularly in one branch of work having agreements with others to pass on to them certain other classes of work. What is wanted is an extension of this spirit of cooperation, which is undoubtedly advantageous to the client and in many cases tends to relieve the inexperienced chemist from much mental worry.

Of considerable interest is the table showing the resinous contents of raw rubber in the December issue of this Journal, as given by Mr. L. M. Bourne. The author remarks that the amount of resin in nearly every brand of rubber has increased during the last two or three years. Without wishing in any way to dispute this statement, which *prima facie* is supported by the figures, it should be borne in mind that analysts very often differ even when employing identical methods of procedure. I presume that the figures in question were got from the washed and dried rubber, and as the rubber was weighed after precipitation from the benzol solution by alcohol, the latter will contain as well as resin any saccharine and nitrogenous matters the rubber contained. I am not prepared to say to what extent these other bodies would augment the resins when weighed with them, but in some brands, at any rate, I am sure they are not negligible. Again, some rubbers are very difficult to wash entirely free from fine sand, which unless special precautions were taken would be weighed with the resins. However, leaving out of account any possible sources of error in the analysis, how are we to account for an increase in resinous constituents all round the globe in the same period of time. Is the solution to be found in the higher prices prevailing and a consequent rush to get the product to market, without the usual amount of care being taken in the collection and transport? Of course it must not be overlooked that in the case of a good many rubbers great discrepancies are observable in the figures given in the previously published tables, and it does not admit of doubt that the resin in many brands of rubber varies considerably not only in different consignments, but in parts of the same consignment. In giving the name of a rubber it is also necessary to say whether it has been graded. A striking figure

in the list under notice is the 24.2 per cent. of resin for Mozambique rubber, previous figures being 3 per cent. by Terry, 3.2 per cent. by Weber, and 8 per cent. by Clouth. It rather looks as if different grades were tested. In one or two other cases discrepancies almost as startling are shown, and it seems clear that close attention cannot yet be paid by the practical man to any of the figures published.

ACCORDING to sundry evidently inspired articles which have recently appeared in the daily press, the new Anglo-Continental Rubber Co. have solved a problem of the greatest importance towards the solution of which little or nothing has been hitherto done. A good many of the statements I have read do not err on the side of accuracy with regard either to the past or the present of the reclaimed rubber industry. But not to labor this point, it is understood that the new company, which is stated to have a capital of £300,000, is already erecting a factory in Paris and has a London one in contemplation. The main point about the process, which is the invention of a Swiss chemist, is the solution of the waste rubber in some special solvent and the reprecipitation of the rubber by alcohol. It differs therefore from the processes usually followed in that the mineral matter is separated from the rubber and any canvas insertion also. There is nothing new in procedure of this sort, except in the value of the rubber obtained, this having been testified to by Mons. Rene Bobet, a French expert authority. Up to the present the processes involving the solution of the rubber in some organic solvent and its reprecipitation have not been proved successes, partly owing to the cost of the chemical treatment and also because the rubber has been deteriorated in quality by the chemical treatment. With these few remarks I shall quit the subject until an opportunity is afforded of judging the quality of the rubber produced by this new process.

Now that a prominent Russian rubber factory is making reclaimed rubber and selling it in England, am I to presume that the old time exportation of old goloshes from Russia to America has died out? It may or may not be generally known that the Russians use a better quality of rubber for their uppers than the Americans do, this being the cause of the eagerness with which the latter imported the old Russian goloshes until the export duty put on a year or two ago put a spoke in the wheel of the business. The agents in this country for the Russian reclaimed rubber will have no need to proclaim the merits of their goods from the house tops, but all the same they will find plenty of competition. For example, there will soon be the output of the new Leyland works, recently referred to in these notes, to be reckoned with.

THIS should prove a better season than last one for the rubber boot dealers. The heavy snow at Christmas caused a rush on the shops all over the country and I heard of several dealers being sold out of stocks in London. Enquiry at the headquarters of the United States Rubber Co., in Farringdon street, showed that extreme activity in business was experienced at Christmas. A dealer at Kings Lynn, according to the newspaper reports, appears to have done a good stroke of business, as well as obtaining a good advertisement, in fitting out the royal guests at Landringham. The second spell of cold weather, at the end of January benefited the skate dealers rather than the rubber shops as the frost was unaccompanied by snow. There has been a considerable demand this winter by ladies for the fishing boot type on the ground that it is much more effective than the ordinary

golosh. The usual complaints were rife in London with regard to the laxity of the authorities in removing the snow, but it really is a big problem. The method now generally adopted is to sprinkle salt on the snow and then to flush it into the sewers by hose pipes from the street mains. While this is in operation it is almost impossible to cross the streets for the rivers of mud, and the trouble is augmented when the sewers get choked up. In the provincial towns carting away the snow is the process still generally adopted.

It is such a long time since I heard anything of Fenton rubber that I was surprised to be told by an acquaintance that he had met Mr. Fenton recently, and was told that an improved rubber substitute would shortly be on the market. Fenton's original patent was taken out in 1896 and is now, therefore, nearing the end of its life. Unless I am very much mistaken it did not prove an unqualified success, and there is certainly room for a new patent involving improvements.

BALATA AND THE CUSTOMS.

THE customs authorities of the United States continue to be confronted by questions growing out of the importation of balata, either raw or manufactured. The New York Leather Belting Co. recently protested against an assessment of duty on balata belting at the rate of 35 per cent *ad valorem*, claiming that the goods should have been admitted at 20 per cent. The board of general appraisers at New York sustained the assessment, in support of which reference was made to several prior decisions by the board. It happens that balata is nowhere mentioned in the Tariff act. The question arising at one time as to the rate to be charged on manufactures of balata, it was decided that in view of the similitude of balata to gutta-percha, the rate on manufactures of which is 35 per cent, this rate should apply to goods in which balata is the component article of chief value, and this has since remained the attitude of the local authorities. Importers, however, contend that balata goods should be dutiable only at 20 per cent as "unenumerated manufactured articles." [See THE INDIA RUBBER WORLD, April 1, 1902—page 230.]

No final decision has been reached as yet in the matter of the various protests against the payment of duty on raw balata. It will be remembered [see THE INDIA RUBBER WORLD, November 1, 1905—page 44] that the collector at Norfolk, Virginia, was first to assess a duty on an importation of balata—on the ground that he found it nowhere mentioned in the Tariff act—as an unenumerated raw material, the rate on which is 10 per cent. The importer protested, urging that balata on account of its similitude to india-rubber or gutta-percha, both of which are admitted free, should have similar treatment. The board of general appraisers at New York sustained the Norfolk collector, having already gone upon record in dealing with imports of manufactures in a decision that balata was a different substance from the other gums named.

Subsequent protests were made in connection with imports of balata at New York, and evidence adduced to prove balata to belong to the same class of commodities as india-rubber and gutta-percha and also to indicate that such was the belief of the framers of the Tariff act, thus explaining the failure to enumerate balata specifically. The customs appraisers, however, failed to be convinced, and the matter has been carried to Washington.

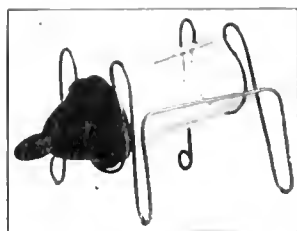
THE product called "aluminum flake," and marketed as a substitute for zinc in the rubber manufacture, is meeting a ready sale. It is understood that the Aluminum Flake Co. (Akron, Ohio) already are selling to about fifty rubber factories, in addition to some of the best paint companies. During the last half of 1906 the company named sold more than 1,500,000 pounds of aluminum flake.

* The imports of waste rubber into the United States by no means show a tendency to decline. The official statement of weight (in pounds) of such imports for the past three calendar years has been: 23,742,451 in 1906; 24,100,040 in 1905, and 16,830,274 in 1904. It is too early yet to learn how much of this came from Russia. But during the fiscal year ended June 30, 1906, the imports direct from Russia were larger than in the preceding year, though not up to the record figures in 1903-04. THE EDITOR.

New Goods and Specialties in Rubber.

THE HYGEIA NURSING BOTTLE HOLDER.

It was a happy thought that prompted the patenting by Alfred H. Oberg, of Belle Fourche, North Dakota, of the hygeia nursing bottle holder. This holder can truly be called the mother's friend. It holds the bottle firmly in position, and in



NURSING BOTTLE HOLDER.

just the right way to enable the milk to be used to advantage. This little invention, as the illustration shows, is simple in design and absolutely no work to care for, while its use saves the mother much time. It is intended especially for use with the hygeia nursing bottle which is manufactured by the company bearing that name in Buffalo, New York.

THE GILBERT PONCHO AND HELMET.

These articles of automobile apparel are something quite new, and apparently well worth the attention of the autoist. They are the product of the Gilbert Manufacturing Co. (New Haven, Conn.), which company has been styled "the automobile protectionist," so many storm-



GILBERT PONCHO.

article for use during stormy or cold weather. It is made from the best quality of rubbered cloth which makes it stormproof in more than name. For those desiring complete protection of face, head and chest when riding at speed, or for protection when exposed to stormy or very cold weather, the helmet is provided. It fits snugly, buttoning down over the chest, and is not in any way clumsy or unsightly. The material is fleece-lined rubber cloth, and it is made in hat sizes.

proof covers of various descriptions having been of their manufacture. These, too, have been about evenly divided between car and occupants. The poncho, which is illustrated here, extends down to the waist, has a close fitting yoke collar fastened with large snap buttons, and is a desirable



GILBERT HELMET.

LA CROSSE "RED FIBER" RUBBER HEEL.

The La Crosse Rubber Mills Co. (La Crosse, Wisconsin), in addition to their regular line of footwear, are bringing out a full line with "red fiber" heels. These are referred to as wearing much longer than most heels, and never bursting out.

AN AIR TIGHT TIRE JOINT.

What appears to be a good idea in tire making has been evolved from the inventive brain of a Massachusetts man. It consists of combination cushion, single tube and pneumatic tire, supplied at the head with an air tight, dovetailed joint between the clincher heads. Unusually thick and strong canvas is used, and there is enough rubber combined with it to afford the highest degree of resiliency and strength to the completed tire. The head is stiffened with a wooden core which follows the clincher and gives ample purchase for holding the flanges in place. Above the flanges there is a reinforcement of rubber that is intended to prevent rim cutting. The surfaces of the dovetailing are covered

with soft rubber. When the flange is pressed together the joint is absolutely air tight, no matter what pressure may be exerted by the pump. Mr. Newton is the inventor.

"SO LITE" RUBBERS

The light rubber shoes, for ladies' wear, made by the dipped process, and known to the trade as the "So Lite" goods, have had mention before in these columns, but are referred to again in order to introduce an illustration of them. They are particularly adapted for use in showery weather, or to be taken on a trip when rain is threatening. [The "So Lite" Rubber Co., Rochester, New York.]



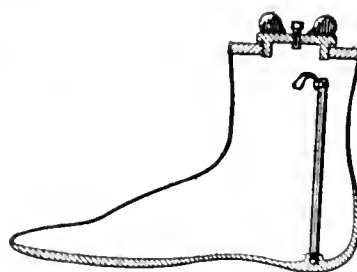
"SO LITE" RUBBER

FLEXIBLE GAS TUBING.

Gas tubing that is not gas tight, as some one has suggested, might as well be used for a child's jumping rope as for any other purpose, and much better for that than an attempted use for gas tubing. The Clayville Manufacturing Co. (Providence, Rhode Island) is making a specialty of manufacturing a tubing of unusual thickness and of a specially fine quality of rubber, making the essential object for which tubing is made the primary consideration of their product. Much time has been employed in perfecting the details of manufacture and every possible consideration for the matter of durability has been considered. Every piece of tubing is tested at 20 pounds vacuum pressure instead of 10 pounds, the amount of pressure often used.

PNEUMATIC SHOE TREE.

The illustration relates to a recently patented Pneumatic Shoe Tree. In this design the upper and ankle are composed of elastic material, and the sole is flexible at the waist, while at the heel and toe it is stiff. Interiorly it is provided with means detach-



PNEUMATIC SHOE TREE.

ably connected to the heel portion for forcing the tree into the boot or shoes or for withdrawing them. There is also means attached at the upper part of the ankle for opening or hermetically closing the tree. Provision is likewise made for inflating the tree. David M. Reid, Mingo Junction, Ohio, is the patentee.

FANCY STOPPER TOP.

In a wild flight of fancy some genius has conceived an idea of his satanic majesty, than which nothing more satanic could be desired by the most daring, and this genius has been successful in having the witchery of thought escape through his finger tips, and the result is a grotesque rubber head adorned with brilliant red horns, ears, eyes, nose and lips of red, while a red tongue of enlarged proportions protrudes from between open lips, the whole surmounting a bottle stopper. One is not quite sure whether the tongue is supposed to indicate certain gastronomic

effects as a result of contemplating the contents of the bottle which this head covers, or if the protrusion is in derision of all those who pass by on the other side. The same expression would serve both ends. An old fashioned "dickey" of exaggerated size in white rubber, and a cravat to match horns, ears, eyes, nose, lips and tongue complete the stopper adornment. [The Hanover Rubber Co., Limited. George Borgfeldt & Co., Nos. 48-50 West Fourth street, New York, sole agents for the United States and Canada.]

FUR-TRIMMED RUBBER FOOTWEAR.



WOMAN'S RUBBER BOOT—
PELZ TRIMMING.

comfortable as well as being such in reality. There is, of course, such a wide range of furs that prices may be arranged to suit purses of varying capacity. A very neat trimming at a moderate price is of *krimmer*, which is very similar to astrakhan, and is gray in color. Goods of the type here illustrated are made for women, misses and children. [Etablissements Hutchinson, Mannheim, Germany.]

The illustrations herewith relate to a style of rubber footwear very popular in many parts of Europe, though unlike any of the brands of American production. As will be inferred, these boots are intended as a protection against deep snow, and also against cold. In addition to being felt lined, they are heavily trimmed with furs, with the idea of giving them the appearance of being



WOMAN'S RUBBER BOOT—
KRIMMER TRIMMED.

THE MALLORY CRAVENETTE HAT.

A hat that is rainproof as well as sunproof has distinct, not to say economic, advantage over a hat of the ordinary type. The Mallory is simply a fine fur felt in quality, plus the value that comes from the Priestley Cravenette finishing process. In unexpected shower or under a scorching sun, and when the elements are less severe, the same hat may be worn without protection and without fear of its being made to suffer in appearance in consequence. The styles are up to date, both in soft and stiff felt. [E. A. Mallory & Sons, Inc., No. 13 Astor place, New York.]

PNEUMATIC SUCTION HORSESHOE PAD.

A Horseshoe pad which has been patented recently not only in the United States, but practically all over the world, has been given the very euphonic and picturesque name "Sure Foot." The accompanying illustration shows, in a measure, the general make-up of the pad. Under the central raised portion, which is of rubber, a trifle more than a quarter of an inch thick, is sheet leather, which is vulcanized to the rubber. This gives a cushion effect under the central circular portion. [Consolidated Hoof Pad Co., No. 18 Vesey street, New York.]



"SURE FOOT" HORSESHOE PAD

GOODRICH WATER JACKETS.

When heat or cold is desired in case of sprains, fractures, dis-

locations, etc., these water jackets are substituted for the ice bag and hot water bottle with most gratifying results. Good results have also been obtained when the jackets have been used in



GOODRICH WATER JACKET

myalgia, arthritis, rheumatoid, and other affections of the muscles and nerves. They are simple in construction and adjustment, being made of an inner and outer tube of pure gum cemented together at the top and bottom. Iced or hot water is forced between the two tubes with a bulb syringe from a fountain bag or from a faucet, through

an inlet tube. The more water forced in between these tubes, the tighter the jacket fits and the more the pressure increases. When a continuous flow of water is necessary the lower or outer tube will allow of regulating the flow through a stopcock. The jackets, of which a specimen is shown in the cut, are made in knee, ankle, wrist, and elbow size. [The B. F. Goodrich Co., Akron, Ohio.]

PIKE'S RUBBER BRUSH.

The number and variety of bath, toilet, shampoo, and massage brushes on the market are almost without limit, each one having its special feature and special argument addressed to the trade and the public. One of these brushes that has the merit of being attractive looking, and lays claim to being a big seller, is Pike's Rubber Brush. It may be used as an invigorator during the bath; it may also be used for a shampoo or for purposes of massage for the body or the scalp, and last but not least as a



complexion brush. By rubbing the face with the brush dry, it produces a glow and exhilaration, healthful, desirable and becoming. Ladies more especially appreciate this function of

the brush and their use of it is widespread. Inasmuch as their artistic sense is supposed to be more highly developed than that of "mere man," the combination of utility and beauty appeals to them, and the plainer brush, while it serves its purpose does not serve theirs—and the more attractive production finds its way to "my lady's" lavatory. [O. C. Pike, Akron, Ohio, figure among those who manufacture this attractive brush.]

CYCLE TIRES IN DEMAND.—The London *Statist* says, in an article on the British cycle trade: "Speaking generally, the year just ended has proved one of the most satisfactory that the trade has yet had—the works have been busier and the output greater than at any other period. On the other hand, the larger output has been accompanied by a smaller margin of profit than was the case when there was a 'boom' in the industry in 1897. So that with a broader basis the trade is in a healthier condition."

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JANUARY 1, 1907.

- N**O. 830,851. Hose nozzle. E. J. Christman, assignor to J. R. Clancy, both of Syracuse, N. Y.
 830,874. Rubber mat. [Comprising two sheets, each rubbered on one side only, placed one over the other with the ribs on the upper sheet crossing those on the lower sheet, so as to form communicating air channels.] R. K. Gray, London, England.
 830,851. Machine for manufacturing hose or rubes. C. Hyde, New York City, assignor to Alphaduct Mfg. Co., Jersey City, N. J.
 830,880. Safety rubber heel. E. G. Perkins, assignor to one-half to A. R. Polsky, both of Vallejo, Cal.
 830,928. Electric heating attachment for hot water bags. C. Van D. Hill, St. Louis.
 830,960. Heating attachment for hot water bags. C. Van D. Hill, St. Louis.
 840,060. Conduit. [For electric wires.] T. A. Jones, Cambridge, Mass., assignor to American Circular Loom Co., Chelsea, Mass.
 840,081. Storm apron. A. J. Miller, Henderson, Ky.
 840,160. Pneumatic tire [or form for boots and shoes.] D. M. Reid, Mingo Junction, Ohio.
 840,160. Bathing hood. R. Stollberg, assignor to D. C. Hall & Co., both of New York City.
 840,200. Tire. [Comprising a fabric having a plurality of layers of rubber thereon, the layers differing in hardness, and studs extending from the outer surface of the fabric through the rubber portion to the tread surface.] G. E. Heyl-Dia, Stroud, Ireland.
 840,280. Hose supporter clasp. P. S. Bauer, Chicago.
 840,328. Horse brush. J. S. Hickson, Charlottesville, Va.
 840,334. Process of making shoes for pneumatic tires. J. W. Hyatt, Newark, N. J.
 840,340. Pencil holder. S. J. Lester, Otter Pond, Ky.
 840,355. Hose supporter. M. R. Lyle, Oakland, Cal.
 840,350. Suspenders. C. A. Murray, Cumberland, Wyo.
 840,372. Eraser tip for lead pencils. L. J. Reckendorfer, New York City.
 840,431. Hand rubber composition ball and process of making the same. E. F. Upton, assignor of one-fourth each to E. Van Kirk, D. O. Van Kirk and M. F. Fisher, all of Mineral City, Ohio.
 840,456. Tomtom pens. B. L. Goldsmith, New York city.

ISSUED JANUARY 8, 1907.

- 840,460. Apparatus and process for filling rubber tires with viscous liquids. C. W. Berry, Portland, Me.
 840,472. Syringe. R. C. Brooks, Wadler, Tex.
 840,485. Eraser. Eberhard Faber, New York city.
 840,593. Vehicle tire. [A tire casing having two metallic rings embedded therein, one on each side of the tread, and a woven wire strip carried thereby and disposed there between.] A. H. Marks, Akron, Ohio.
 840,590. Vaginal irrigators. C. O. Farrington and Thomas Watson, Sealy, Tex.
 840,593. Vulcanized joint for vehicle tires. [A thin insert of vulcanizable rubber is placed between the opposed ends of a solid rubber tire, the whole being vulcanized together to form a homogeneous union.] W. F. Stearns, Batavia, N. Y.
 840,642. Machine for wrapping tires. C. E. Miller, Anderson, Ind.
 840,740. Vulcanizing mold. H. Z. Cobb, Chelsea, Mass., assignor to Revere Rubber Co., Boston.
 840,938. Tool for manipulating pneumatic tires. F. L. Heller and C. W. Hancock, Binghamton, N. Y., said Hancock assignor to said Heller.

ISSUED JANUARY 15, 1907.

- 841,121. Machine for preparing rubber shoes. J. F. Cavanaugh, Providence, R. I., assignor to the United States Rubber Co.
 841,127. Stocking supporter clasp. G. Devoll, Boston.
 841,146. Pneumatic massage apparatus. S. Hasbrouck, Providence, R. I.
 841,155. Tire protector. [A metallic shield engaging the tread surface of a rubber tire.] O. Kelly, Orton, Ohio.
 841,282. Overshoe holder. W. H. Tillson, Quincy, Ill.
 841,430. Hose supporter. Eugene Pearl, Passaic, N. J.
 841,448. Horseshoe. J. F. Robinson, Rockaway, N. J.
 841,473. Traction device for vehicle wheels. [In the nature of a chain grip for rubber tires.] H. S. Weaver, Butler, Penn.
 841,475. Self-filling fountain pen. P. E. Wirt, Bloomsburg, Pa.
 841,505. Vehicle tire. [A core for elastic tires, comprising a plurality of loosely twisted strands of wool surrounded by and compressed within a covering of cord wound about said strands.] F. M. Georgi, Chicago.
 841,610. Locking device for tire retaining attachments. R. S. Bryant, Columbus, Ohio, assignor to the Bryant Steel Wheel and Rim Co.

- 841,614. H. M. & S. Adams & Co., Pittsburgh, Pa. The words "H. M. & S. Adams & Co." for marking rubber tires.
 2,676. The B. F. Gohrich Co., Akron, Ohio. The letter G enclosed in a word of leaves. For marking belting, hose, machinery packing, gaskets, tubes and the like, made wholly or partly of rubber.

ISSUED JANUARY 22, 1907.

- 841,8. Wheel rim. Thomas Midgley, Hartford, Conn., assignor to the Hartford Rubber Works Co.
 841,871. Wheel rim. [With removable side flange having a bolt therein and a clip or cover for said joint secured to the flange and provided with means of fastening it in position.] Same.
 841,928. Cleaning device for pneumatic tires. W. R. Froenberger, New York city.
 841,968. Vehicle tire. [Armor for the inner tube.] E. Hitchcock, assignor of one-half to F. H. Stevens, Precept, N. Y.
 841,990. Vehicle spring buffer. [Comprises tubular telescopic members, a cap plate on the upper member having upwardly extended tapered lugs, a rubber cushion seated on said cap, and screws engaging in lugs and against cushion.] P. McKay, assignor of one-fourth each to C. Ribatto and J. A. Osborn, all of Day Dawn, Western Australia.
 841,992. Disk wheels for road vehicles. [With elastic tire.] E. Martin, Battersea, England.

ISSUED JANUARY 29, 1907.

- 842,217. Method of forming inner tubes for tires. A. H. Marks, Akron, Ohio.
 842,231. Pneumatic tire. [Continuous elastic tire having outwardly projecting clencher engaging flanges, and wear resisting facing pieces between said flanges and the tread portion of the tire, the facing pieces being separated from each other by intermediate portions of the elastic body of the tire, and composed of a material which is free from liability to crush the body portions of the tire bearing on the edges of the said facing pieces.] V. H. McDowell, Lynn, Mass.
 842,252. Truss. J. Sault, Queensbury, N. Y.
 842,304. Door chuck. C. G. Deming, Kingston, N. Y.
 842,316. Henshoe. [With a resilient heel pad.] J. P. Hopewell, Chicago.
 842,385. Carpet cleaning machine. L. B. Cobb, St.atham, Mass., assignor to American Carpet Beater Co., Boston.
 842,502. Weather strip. W. U. G. Shaw, Battle Ground, Ind.
 842,524. Hair comb. L. S. Cartwright, Chicago.
 842,677. Suspenders. C. Ludolph, Berlin, Ontario.
 842,700. Vehicle wheel. [Comprising a tire section and hub section, with a cushioning section of resilient material interposed between.] J. C. Underwood, New York city.
 842,750. Hose supporter. J. C. Beech, Shirley, Mass.
 842,830. Elastic substance similar to India rubber and its method of manufacture. [The process consists in mixing glycerine, gelatine and chromates with water, and allowing the mixture to set while retaining the water of hydration in combination, whereby is formed a solid hydrated compound devoid of free water and insoluble in water.] Lucien R. Land, Paris, France.

Trade Marks.

- 23,246. Lawton & Hall, Chicago. A duck represented as swimming, over which are the words *Duck Brand*, and underneath, *Sheds Water*. For marking rubber coats, blankets, boots and shoes.

[NOTE: Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1905.

* Denotes Patents for American Inventions.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 28, 1906.]
 18,028. Coupling for tire and other hose. W. Goodwin, South Hayling, Hampshire.
 18,043 (1905). Pneumatic tire. T. Dunn, London.
 *18,040 (1905). Finger exercising apparatus for musicians. F. B. Kure-Sheedy, East Orange, New Jersey.
 18,107 (1905). Elastic tire. [Several layers of felt are thoroughly saturated with india-rubber, of which two or more are cemented together to form a complete tire suitable lengths are vulcanized.] R. J. C. Mitchell, Springfield, near Manchester.
 18,176 (1905). Waterproof of apparel. [Coats are provided with inflatable rubber bags, on the inside. When slightly inflated these are claimed to add to the protection from cold.] T. Beaton, Barrow-in-Furness.

- 18,738 (1905). Vehicle wheel with pneumatic tire. A. and J. H. Pullbrook, London.
- 18,768A (1905). Vehicle wheels. E. H. (executors of A. Pullbrook) and E. H. Pullbrook, London.
- 18,796 (1905). Pneumatic tire. [The tread is covered by sheathing of metal, wood or hard rubber, the edges of which rest in channels formed by shoulders on the air tube.] A. J. Boulton, London. (A. E. Henderson, Toronto, Ontario).
- 18,820 (1905). Pneumatic tire. [With removable armored tread.] J. J. W. Hodecets, London.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, DECEMBER 31, 1906.]
- 18,848 (1905). Pneumatic tire. [To obtain a flat seat for the junctions of non-continuous air tubes, rubber cushions, provided with tapering ends, are fitted in the wheel rim.] O. Englebert, Liege, Belgium.
- 18,849 (1905). Waterproof flounce for ladies' dresses. H. M. Lodge, Eastbourne.
- 18,869 (1905). Spring wheel and solid rubber tire. R. Midworth, London.
- 18,734 (1905). Pneumatic tire. [Composed of a series of inflatable segments.] W. J. Baird, Bury, and J. E. Hargreaves, Manchester.
- 18,843 (1905). Pneumatic tire. [A detachable flange for securing tires in position on the felloe.] A. Birchall, Liverpool.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 9, 1907.]
- 18,874 (1905). Reservoir pen. [Attachment for determining whether the pen is charged with ink.] R. MacDonall, Glasgow.
- 19,203 (1905). Pneumatic tire. [To prevent transverse extension of leather covers or protective bands after they have been applied to the tire, the leather is, previous to the making of the cover, stretched in a direction transverse to the circumference of the band.] H. Staub, Mannedorf, Switzerland.
- 19,117 (1905). Waterproof coat cut in a single piece. P. H. Davy, London.
- 19,227 (1905). Vehicle wheel. [Combination of a spring wheel and solid rubber tread or tire.] C. H. Wilkinson and J. H. Kaye, Huddersfield.
- 19,206 (1905). Device for carrying spare tires when motoring. A. W. Southey, London.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 16, 1907.]
- 19,334 (1905). Elastic tire [built up of layers of leather set on edge, with or without a supporting cushion of rubber]. W. M. Bowron, Motor Mills, Kent.
- 19,533 (1905). Pneumatic tire. [Antiskidding cover composed of transverse leather or other flexible strips.] H. J. A. Brisson, Clinchy (Seine), and P. Schmitt, Paris.
- 19,621 (1905). Vehicle wheel. [Relates to means of attaching india rubber tires, vulcanized to steel rims, to the wheels of heavy automobiles.] Société Anonyme des Etablissements Falconnet Peroleaud, Choisy le Roi, France.
- 19,662 (1905). Vehicle wheel. [Double disk wheel, having continuous or preferably block tires of rubber, fitted with continuous metal tread band having side wings which may be formed integral with the band or screwed on and locked by pins.] R. E. Smith, Warrington.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 366,300 (May 16, 1906). Société Anonyme "Le Centaure." Antiskid.
- 366,330 (May 23). H. Bell. Spring wheel.
- 366,590 (May 26). G. Monnie. Elastic tire.
- 366,622 (May 28). A. Vogelgesang. Improvements in insulation.
- 366,564 (May 25). V. A. Boucheson. Process for making rubber solution, etc., unflammable.
- 366,615 (May 26). Société Harvey Frost & Co., Ltd. Portable vulcanizer.
- 366,801 (June 2). A. Dow. Self-sealing tire.
- 366,926 (June 7). Société Michelin et Cie. Tire cooling process.
- 366,805 (June 2). W. A. Koncman. Rubber reclaiming process.
- 366,806 (June 2). Same. Rubber reclaiming process.
- 366,868 (June 2). E. de Dorlodot. Artificial rubber.
- 366,998 (June 8). L. Kusnick. Tire inflator.
- 367,016 (June 9). O. Tailfer. Tire protector.
- 367,070 (June 12). E. Hopkinson and Medgley. Vulcanizer.
- 367,175 (June 14). Société des Jantes Amovibles M. E. Method of mounting removable rims upon fixed rims.
- 367,295 (June 20). Société Continental Caoutchouc and Gutta-percha Co. Cover for pneumatic tires.
- 367,389 (June 9). Société Michelin et Cie. Tire valve.
- 367,421 (June 25). Moizard. Spring wheel.
- 367,147 (June 26). W. S. Smith. Antiskid tire.
- 367,452 (June 27). M. M. Desson. Utilizing gums from certain Sapotaceae.
- 367,618 (May 28). E. I. C. Reussier. Hair cloth or felt steered in rubber cement.
- 367,529 (June 13). G. L. Lemson. Spring wheel.
- 367,530 (June 14). Stephane. Pneumatic proof tire.
- 367,586 (June 30). F. Rich. Tire tube.
- 367,653 (May 17). W. B. Hartridge. Elastic tire and wheel.
- 367,669 (June 19). Roberts and Prince. Tire cover.

- 367,689 (July 1). Kimpshall. Wheel tire.
- 367,824 (June 29). E. Dunn. Elastic tire.
- 367,829 (July 6). Arroult. Elastic tire.
- 367,643 (July 31). Ephraim. Process for forming articles from caoutchouc.
- 367,774 (July 3). Société Godfrey and Delore. Cable insulation.
- 367,860 (July 7). Société anonyme des pneumatiques Cuir Sanson. Removable rim.

[NOTE. Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE LATEST AUTOMOBILE APPAREL.

WHATEVER the visitors to the great automobile shows may go to see, they will find bids for their attention made by the exhibitors of many other articles than automobiles. The fact that there are certain accessories without which motoring would not be comfortable, or even practicable, and the makers of such goods flocked to Madison Square Garden (New York) at the recent show to place them upon exhibition. Particularly was motoring apparel in evidence, and in great variety, forming one of the most interesting features of the show.

Authorities on the subject say that the 1907 woman motorist must have five different costumes. These are a satin rubberized coat for rainy weather; a full length duster for touring and windy weather, driving in the city; a long coat for shopping trips; a heavy fur coat for all round winter use, and a waterproof leather coat for cold weather.

The numerous styles of headgear include caps of fur, rubber and cloth for winter, and of silk, mohair, pongee and linen for summer. Then, for protecting the back of the head and neck, there are many varieties of dust-proof hoods and capes. Hoods, as a rule, now take the place of goggles for women, but there are some made of gauze wire with detachable pongee masks.

In men's apparel the most important acquisition is a fur coat reaching to the ground. One must also have a double-breasted coat. The correct thing for wet weather is a rubber shirt, with cap, hood and boots to match, either in red, gray, black or tan.

Fur caps to match coats or heavy leather caps are right for winter wear, while light leather and soft caps are in season at all times. The goggles most affected fit close to the face and do not interfere with the cap.

ENGLISH MOTOR APPAREL NOTES.

THE Dunlop company no longer confine themselves to the tire manufacture, but are prepared to supply many other accessories of motoring, not the least of which is an extensive line of motorists' apparel, all of which is waterproof. Their display of such goods at the recent automobile shows in London was remarked upon as being composed of garments that were at once smart and serviceable.

A motor coat made by a leading London firm is of conventional appearance when buttoned up, though possessing some distinctive features in construction. From the shoulder downwards there is an interior attachment made of wool or camel fleece, and buttoning fairly loosely. Round it are stitched a series of elastic bands, which keep the garment close to the body, and yet give the maximum of freedom.

A form of motorists' coat seen in London this winter serves all the purposes of a rug, and yet allows room for the steering pillar to pass between the legs. The front of this coat is in reality formed by expanding pleats, so arranged that when the wearer is seated, the pleats open, thereby allowing room for the steering pillar and giving great freedom to the legs by relieving the knees of weight.

The "Stuart Albany" ponchos, for motoring, made by a London firm, are made with wrist straps, pockets, and a cleverly devised neck opening, which it is possible to close up practically watertight.

Rubber Men Hear Transportation Discussed.

NEW ENGLAND RUBBER CLUB'S DINNER

GOOD company, good fellowship, good appetite are invariably the characteristics of the various meetings of the New England Rubber Club, and the rule held good at its annual midwinter banquet in Boston, on Wednesday evening, February 13, at the Hotel Brunswick. It had been intended to give this banquet at another place, and the arrangements had been perfected, when this announcement was sent out:

"The executive committee of the New England Rubber Club has to advise its members that, consequent upon an agitation undertaken at the present time by Boston's leading legal luminary with regard to the rights of private clubs in this city, it has been decided not to avail on this occasion of the kindly hospitality of the New Algonquin Club, and in substitution to hold the annual banquet and reception of the Club at the Hotel Brunswick."

But the rubber man can be happy anywhere, and especially happy they were in the parlors of the Brunswick, where President Paul introduced the guests of the evening to the members, while the entertainment committee saw to it that everybody knew everybody else. The dining room was tastefully decorated, and the dinner attractive in itself and delightfully served. There were present about 150 members and guests.

It was 8.30 when President Alexander M. Paul wielded his hard rubber gavel for the members to sit up and take notice. After a few words of welcome he called attention to the fact that the value of the total manufactures of New England in 1905 was \$2,000,000,000, an increase of 25 per cent. over 1900. In the same time the increase in the value of rubber products was about 75 per cent., thus showing that while New England was making excellent progress in general manufacturing, the rubber industry was making a far better relative showing. Then, speaking of the importance of railroads to the progress of the country, he introduced as the first speaker Mr. T. E. Byrnes, first vice-president of the New York, New Haven and Hartford railroad.

Just at this time the railroads appear to be the subject of adverse criticism, and Mr. Byrnes spoke on the defensive in his address on "Some Phases of the Transportation Question in New England." Mr. Byrnes believed that proper agitation of

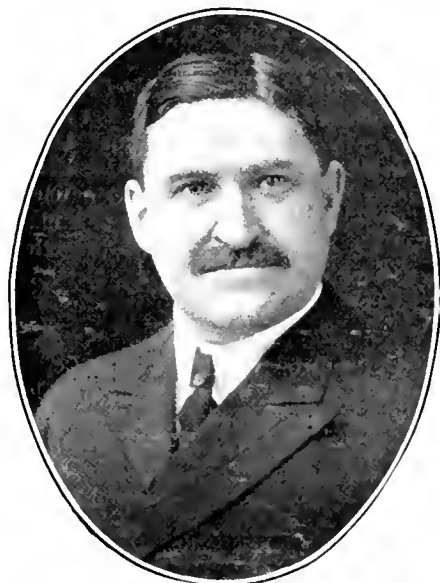
any important question would bring about a better knowledge of the conditions is a pre-requisite to proper action.

"The statesmen have been honestly trying to solve the transportation problem, under the leadership of our country-loving President, Roosevelt, who has made honesty fashionable, and who has brought renewed honor and glory to the American nation. The difficulties between the transportation companies and the public seem to be: That the public believes that facilities are inadequate, that rates are too high, that railroads are arrogant and indifferent to public needs. The railroad interests claim railroad officers are intelligent and progressive, and that the demands and criticisms of the public are unfair and unjust."

In the old days of small, short line, locally owned and managed railroads, complaints were easily and quickly adjusted right on the spot. To-day, if a passenger makes a complaint, he usually does one of three things. He roasts the railroad in the newspapers; he introduces a bill into the legislature; or he goes to the club and orders a high ball and damns the management. It is the intention of the management of the New York, New Haven and Hartford to make it the model railroad of the country. New rolling stock has been ordered to the amount of \$25,000,000. An improvement contemplated is to give additional service, using trolley lines to collect freight at the shippers' door, and delivering it, in the same manner on the premises of the consignee, thus saving cartage, which to-day frequently amounts to 50 per cent. of the entire freight charges.

It is to the interest of the railroad that manufacturing industries thrive along its line. Otherwise the road cannot exist as a paying institution. Therefore the railroad must take as great an interest in the prosperity of the manufacturers as if it were a partner in the business. To the people, we would say, stand up for your transportation companies as you do for your town. There never was a time when there were as many honest men in the country as there are to-night, and there never was a time when the railroads were endeavoring more to coöperate with the people on whom they depend for their own prosperity.

EX-CONGRESSMAN SAMUEL L. POWERS, of Massachusetts, was next introduced.



T. E. BYRNES.



SAMUEL L. POWERS.



CHARLES E. ADAMS.

Mr. Powers is recently become a railroad president, and felt proud of the new honor. The railroad is a trolley line which never paid a dividend, and the road cannot be discontinued or given away. But even under these adverse circumstances Mr. Powers was happy and genial and prolific of good anecdotes. Once only did he relapse into a state of prostration and this was his wall:

"I used to take pride in living on a line of road where every stockholder was a New Englander and every officer lived along the line. Now, even the name of Boston has been erased from the running stock, and the railroad is run with New York capital. I cannot take a trolley line without patronizing one that is said to be owned in Wall street. I cannot telegraph without helping New York capitalists. I cannot talk through the telephone without adding to the wealth of capitalists."

Mr. Powers called attention to the wonderful increase in population and wealth of the country. In 1855 the population of the United States was 23,000,000 and the wealth \$14,000,000,000. To-day, the population is 87,000,000 and the wealth of the country \$100,000,000,000, and before the end of this century there will be 200,000,000 people in the country and the wealth will be at least \$500,000,000,000. Interstate commerce in the time of our grandchildren, he predicted, will be twenty times what it is to-day, and



FRANK LINCOLN.

the railroads have not foreseen and provided for the tremendous increase which must come to them. The people have invested in the railroads one-twelfth of the entire wealth of the country. We need have no fear of governmental ownership of the railroads.

He advised the public to cooperate with the railroads that they may grow with the growth of the country, and that they may share in its prosperity, for this nation will, within the present century, control the destinies of the entire world.

* * *

PRESIDENT PAUL spoke of the advantages of organization and concerted effort. He gave some account of the benefits which had come to industrial and commercial New England, and then introduced Mr. Charles E. Adams, president of the Massachusetts State Board of Trade, whose subject was "The Usefulness of and Necessity for Mercantile Organizations."

Mr. Adams gave some account of the formation and work of his own association. He stated that the national department of commerce and labor was the result of a movement initiated in Boston; that the present state corporation laws are the result of the work of this organization; that this board petitioned and strongly urged legislation for municipal auditing and returns to the state in the same manner as is now required of private cor-

MENU		
Martini Cocktails	Cape Oysters	Olives
	Radishes	
	Cream of Celery aux Souffles	
	Consomme Imperial	
	Zinfandel Sauterne	
	Fried Boneless Smelts, Tartar Sauce	
	Pommes Sautee	
	Saddle of Southdown Mutton	
Roast for Carte Blanche	Stringless Beans	Delmonico Potatoes
	Lobster a la Newburg on Cakes	
	ROMAN PUNCH	
	Roast Black Duck	
	Lettuce Salad	
Lucy Assorted Cake		Harlequin Ice Cream
Fruit	Coffee	Cheese

porations, with the result that laws have been passed in part covering this policy.

In the matters of national legislation regarding postal laws, a marine subsidy, improved consular service, the enactment of pure food laws and other important national questions this association has cooperated with other kindred organizations in urging the passage of the pure food law; and another important measure was the passage of the following resolution:

That in the judgment of the Massachusetts State Board of Trade the time has now come when by treaty, central zones should be established between the ports of North America and the ports of Great Britain and Ireland, and the continent of Europe, within such zones steamships and sailing vessels in the conduct of lawful commerce shall be free to pass without seizure or interruption.

This resolution has been widely approved by business organizations in different countries, and President Roosevelt has been asked to have them presented to the Hague conference this year.

Mr. Adams advocates the formation of a body composed of associations representing each state in the Union, as an auxiliary to the department of commerce and labor in the presentation to congress of the commercial and industrial needs of a great people.

At the conclusion of Mr. Adams' speech, President Paul said he believed that it would be advisable for the New England Rubber Club to identify with the organization represented by Mr. Adams. The question had been considered by the executive committee, and the president asked that a vote be taken to see what was the general sentiment. It was voted to be the sentiment of those present that the New England Rubber Club should be identified with the Massachusetts State Board of Trade.

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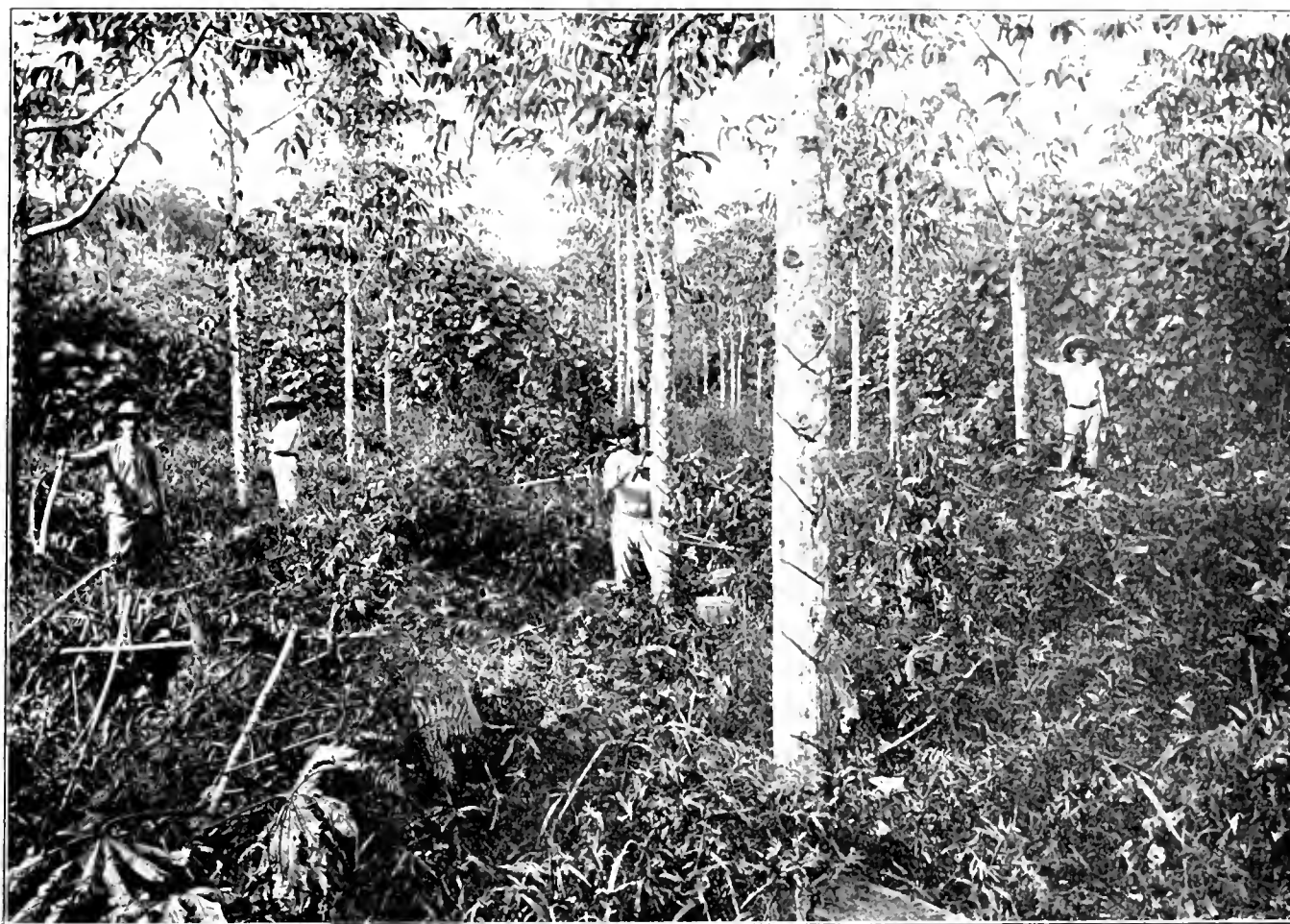
THE discussion of these weighty questions finished, Frank Lincoln, a popular humorist, delighted all present with his clever imitations and impersonations, besides telling side-splitting stories, capping all these by sitting at the piano and giving a burlesque selection from grand opera.

The governor of Massachusetts, the Hon. Curtis Guild, Jr., sent an autograph letter which was read, explaining that an engagement of long standing prevented his being present. Letters were read also from Captain Kilbourne and Weyke, of the United States army, who were the hosts at the Club's summer outing.

The meeting was now declared adjourned, but it was a much later hour before the last members and guests had departed, declaring that it was the best midwinter meeting in the history of the Club.

H. F. C.

THE tennis shoe business of the United States Rubber Co. has increased every year since the company embarked upon this line of goods. It is said to be over 100 per cent larger now than three years ago. The new "Champion" shoe this year, with the high foxing, is a particularly strong and popular shoe. There has been a very great demand among the retailers for the handsome "Champion" banner. The company issued a large edition, assuming it would be enough to satisfy all requests, but the first edition had not been out two weeks before it was found necessary to order a second and larger edition.



TAPPING "CASTILLOA" RUBBER ON HACIENDA DEL CORTE, IN MEXICO.

RUBBER TAPPING ON "DEL CORTE."

IN response to an inquiry regarding the experimental tapping of rubber in progress on the hacienda "Del Corte," owned by the Isthmus Plantation Association of Mexico, Mr. C. G. Cox, the secretary of the company, at Milwaukee, Wisconsin, has written at length to *THE INDIA RUBBER WORLD*, giving details, which, in part, are summarized below. The plantation manager had not then finished tapping, and complete records had not reached the home office.

Owing to the lack of age of the planted rubber in Mexico, none of the planters there has had much experience in extracting rubber. Hence, the tapping at "Del Corte" has proceeded very cautiously, to avoid all possibility of injuring the trees. Up to this time it has been a question of methods and not of what quantity could be got from a tree in the first tapping.

The only tapping done has been by means of V-shaped incisions—usually three on one side of each tree. They do not believe in machete tapping. Their manager, Cecilio Oest, has had a knife made according to his own ideas, which makes a nice clean cut that heals readily without harming the tree. On the contrary, it is believed that the few trees subjected to their first tapping last year were benefited, becoming larger and apparently better than neighboring trees not tapped.

Mr. Cox states that at "Del Corte" the trees have been tapped less freely than at the same age in Ceylon, and adds: "But we prefer to make haste slowly, feeling that there is a sure future for our rubber trees, and there is no occasion for taking any risks. We have demonstrated the fact that every tree planted is a producer. The latex has flowed freely from every tree we have tapped. We have also demonstrated that trees can be tapped

without injury. Another very important matter is that the tapping and coagulating is not going to cost as much as we first thought."

In regard to the yield of rubber per tree, Manager Oest does not think it safe to estimate approximately more than one ounce per tree for the first tapping. He would not risk damaging the trees for the sake of a larger yield. By the next tapping he hopes to get more rubber, and to find less care necessary.

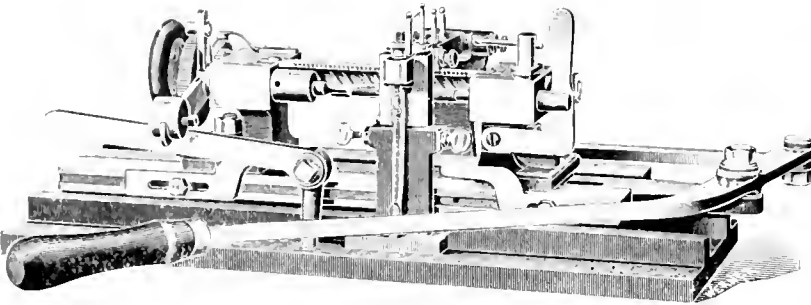
Cups are not used for gathering latex, but a spoon-shaped implement. The idea is to tap many of the trees twice this year. For coagulating, a small box of burned clay is used, which permits the black water contained in the latex to filter through, so that it is only necessary to wash the latex in three or four sets of clean water. Within three or four days after filling the box with latex a well-dried and uniform sheet of rubber is obtained. One man, it is said, can prepare 100 pounds of dry rubber in a day.

An American importing house, asked to report on samples of rubber referred to above, stated (on January 20): "We should say that the value of the rubber represented by your samples is \$1.10 per pound, possibly a little more." A leading firm of rubber brokers in London reported about the same time: "No. 1 is fine, clean *Castilloa* sheet and fairly strong, value about 5 shillings [\approx \$1.24 $\frac{1}{2}$] per pound. In quantity this would probably fetch near 5s. 3d. [\approx \$1.27 $\frac{1}{2}$] per pound."

The Isthmus Plantation Association of Mexico was organized in 1900 by citizens of Milwaukee, to grow tropical products generally. The company took over an estate on which some rubber and coffee had been planted in 1900, and additional planting has been done every year since. The hacienda "Del Corte" is among the best and most carefully managed rubber planting properties in Mexico.

PEN BARREL CHASING MACHINE.

THE accompanying illustration is that of a machine for chasing the barrels of fountain pens. To the casual observer the matter of ornamenting a pen barrel would signify little, but in reality much is involved in this branch of pen making, and many

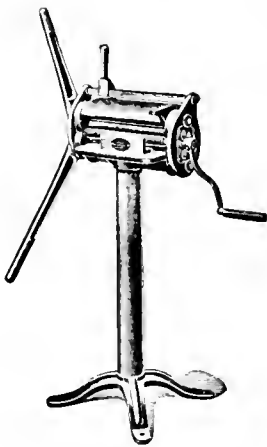


PEN BARREL CHASING MACHINE.

kinds as there are different designs in chasing are employed. The machine in question is manufactured by A. Adamson, Akron, Ohio, and has the distinction of being a pioneer in this line of work.

JACKSON BELT LACING MACHINE.

THE belt lacing problem has been very materially simplified by the invention and the recent improvements made on the Jackson Belt Lacing Machine. It is simple in construction and is said to operate at a saving of time and expense. The rolls of



BELT LACING MACHINE.

this little machine are of hard tool steel and all the parts are interchangeable and can be easily replaced, should necessity require, without the return of the machine to the factory. The wire coil lacing which is used with this machine is durable, makes a perfect hinge, and slips over the pulleys without friction, thereby reducing the vibrations, and consequently the wear, upon the bearings and shafting. Tests of 2½ inch belting have shown that this wire coil has stood a tensile strain of 1,000 pounds without breaking or pulling apart. Another feature to its advantage is that the joining is the same on both sides of the belt, giving an even surface, which is so desirable for smooth

running, while the advantage that comes from being able to connect and disconnect a belt at a moment's notice can hardly be overestimated. The cost of lacing a 5 inch belt is but one cent; of a 10 inch belt two cents, and a 6 inch belt can be laced complete in three minutes. The Jackson belt lacing machine is manufactured by the Birdsboro Steel Foundry and Machine Co., Birdsboro, Pennsylvania, and is in use in many of the government plants, as well as in factories all over the country.

WHAT'S WRONG WITH CEYLON RUBBER?

TO THE EDITOR OF THE INDIA RUBBER WORLD: Is it not time that some one voiced a protest regarding Ceylon rubber? As one who has followed this commodity rather closely, and as one of the earliest users, I would like to impart to your valuable journal my reasons for asking the above question.

When we first received samples of Ceylon rubber we were certainly struck by its beautiful appearance, its cleanliness, and so on. We found its tensile strength quite up to any Pará; for the

purpose of making cement it was unequalled, because it had a swell that figured up at least 7 per cent, better than Pará.

But withal we moved slowly; we watched it; and finally satisfied ourselves that here was a rubber made scientifically and by men of brains, and not by natives, who forced us to buy 20 to 40 per cent. of dirt and water. And so we started to use it in fair quantities. The goods looked nice and clean, and we congratulated ourselves.

And now what has happened? Its uniformity has all gone, it comes in all shapes and in all shades, its tensile strength is lower than the Africans, it won't cure, some of it is soft, some of it is hard.

What have our friends in Ceylon been doing? Experimenting? If so, back to *first stages*; they are off the track. We made a large batch of cement with it recently and the swell was not more than 25 per cent. of what it was formerly, and should be. Then again, we find variations in the same case. Why mix it? Placing some weak rubber with the good won't do any good; it only spoils the whole lot.

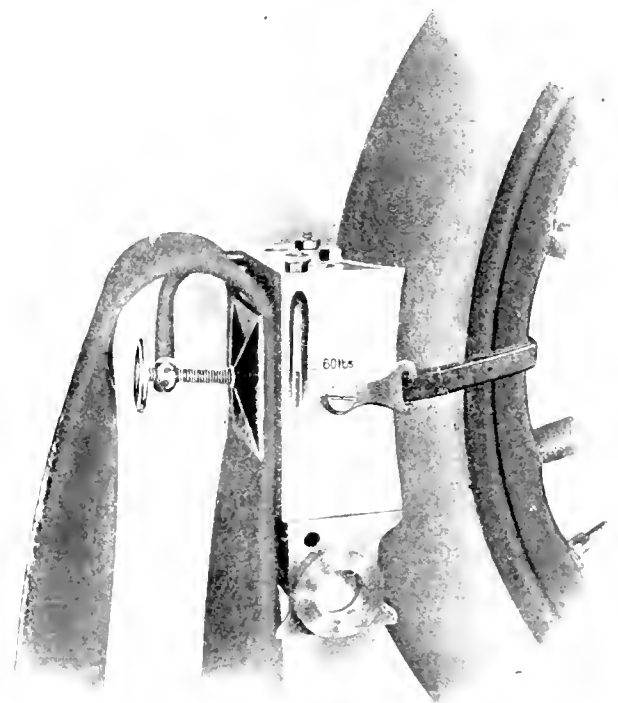
For the sake of the Ceylon rubber industry it is to be hoped that growers will come to their senses and stop fooling before it is too late. The fact that a sample of Ceylon rubber looks good does not prove that it is good. We know that to our cost; all users know it. If the growers plead ignorance of what is required by the manufacturers, let them import a practical man from some manufacturing country.

Ceylon rubber should be just as reliable as upriver fine Pará; why isn't it?

A. D. THORNTON

Montreal, Quebec, February 16, 1907.

THE "EVER READY" VULCANIZER, CAR MODEL.



For the use of a special rubber compound for filling tire punctures. Made by the Auto Improvement Co., New York.

THE Kokomo Rubber Co. (Kokomo, Indiana) are out with a new cycle tire—the "New Oxford"—that is making very many friends.

THE RUBBER TIRE FIELD.

GRANT TIRE PATENT SUSTAINED.

SILLI, another decision has been rendered bearing upon the validity of the solid tire patent issued to A. W. Grant, No. 554,675, of February 18, 1896. THE INDIA RUBBER WORLD has reported (September 1, 1906, page 403) the decision written by Judge Platt, in the United States circuit court for the southern district of New York, in a suit brought by The Consolidated Rubber Tire Co. and The Rubber Tire Wheel Co., alleging infringement by The Firestone Tire and Rubber Co. The decision by Judge Platt was favorable to the validity of the patent, and the defendants appealed to the United States circuit court of appeals for the second circuit, where, on February 1 last, a decision was handed down, written by Judge Coxe, affirming the Platt decision. The second circuit covers the states of New York, Vermont and Connecticut, and the effect of the decision is to render the Grant patent valid in these states.

Judge Coxe refers to the decision in the circuit court of appeals for the sixth circuit, rendered at Cincinnati in May, 1902, against the validity of the patent. Reference was had in that decision to the capacity of the Grant tire of readjusting itself after yielding to severe lateral strain, without tearing or abrasion of the rubber, or injury of any of the parts. The court at Cincinnati found that the mode of operation which produces this result is not mentioned in the Grant specification, or inherent in the combination of parts in the Grant tire, but depends for its discovery upon the ingenuity of experts. The court at Cincinnati said: "If this tipping capacity had been pointed out, and even this indefinite direction given by the patentee, as to the mode of securing that operation, the patent might possibly be saved."

Judge Coxe finds, however, that this feature is inherent in the patent, and the specification is so clear and explicit that no intelligent mechanic can follow Grant's directions without securing the tipping action, which inheres in no other tire. In view of new facts and features, which have been added to or developed from the records in the earlier cases, Judge Coxe finds no reason to doubt that on the present record the court of appeals of the sixth circuit would reach a result favorable to the patent.

The patent to Latta, No. 341,811, granted May 11, 1886, was cited in the recent litigation as anticipating the invention of Grant, though this patent was not mentioned in the opinion of the court in several important cases hitherto. Judge Coxe analyzes the claims in respect of the Latta tire, and is of the opinion that its disclosures are in no way fatal to the claims of Grant.

TIRES AT THE CHICAGO MOTOR SHOW.

THE seventh annual automobile show, under the auspices of the National Association of Automobile Manufacturers, held in Chicago, on February 2-9, at the Coliseum and the First Regiment armory, was by all accounts the largest and best automobile exhibition yet held in that city. The show was larger than either of the two held in New York earlier in the season. The total number of complete cars and chassis on exhibition was 350, and the thoroughly American character of the show is indicated by the fact that of these only two were of foreign make. The tire and accessories department was very complete, representing the leading American makers. The tire exhibits were for the most part the same as were on display at the New York shows, though so rapidly is progress made in this field that some of the companies have had novelties to show that had not previously appeared in any of the motor exhibitions. Displays were made by:

Ajax-Grich Rubber Co. Trenton, New Jersey.
Continental Caoutchouc Co. New York.
The Diamond Rubber Co. Akron, Ohio.
Dow Tire Co. New York.
Electric Rubber Manufacturing Co. Rutherford, New Jersey.
The Firestone Tire and Rubber Co. Akron, Ohio.
The Fisk Rubber Co. Chicopee Falls, Massachusetts.
The B. F. Goodrich Co. Akron, Ohio.
Goodyear Tire and Rubber Co. Akron, Ohio.

The G & J Tire Co. Indianapolis, Indiana.
Harburg Fire Co. New York.
The Hartford Rubber Works Co. Hartford, Connecticut.
International Rubber Co. Milltown, New Jersey.
Michelin Tire and Supply Co. Chicago.
Morgan & Wright. Detroit, Michigan.
Motz Clincher Tire and Rubber Co. Akron, Ohio.
Niagara Rubber Co. Lockport, New York.
Pennsylvania Rubber Co. Jeannette, Pennsylvania.
Republic Rubber Co. Youngstown, Ohio.
Swinehart Clincher Tire and Rubber Co. Akron, Ohio.

In addition to the tire exhibits there were a number of displays of protective devices and other accessories, such as the tire cement, of Eugene Arnstein & Co., Chicago; tire cases of the Kimball Tire Case Co., Council Bluffs, Iowa, and tire cases of the Puncture Proof Tire Co., Cleveland, Ohio, and so on.

G & J TIRE COMPANY CHANGES.

MR. HAROLD O. SMITH, identified with the Indianapolis Rubber Co. from 1893, and later president of the G & J Tire Co. until September last, has resigned as a director in the latter company and in the Rubber Goods Manufacturing Co. Mr. Smith is now the head of the Premier Motor Manufacturing Co.

Mr. C. H. Semple has retired from the G & J Tire Co., with which he was connected from its beginning. Latterly he has been secretary of the corporation. He has been elected president of the Automobile Tire Co., a new corporation under the laws of New Jersey.

TIRE TRADE NOTES.

TRACTION Tread Tire and Tube Co. on January 28 filed articles of incorporation under the New York laws with \$100,000 capital, to make and deal in rubber tires. Incorporators: J. D. Prince, M. B. Richardson and P. M. Pelletreau, all of New York city.

The incorporation is reported in Massachusetts of the Meteor Tire Co., at Boston, with \$10,000 capital. R. S. Warner is president and A. N. Wood, treasurer.

The Healy Leather Tire Co. (No. 88 Gold street, New York) are doing a rushing business repairing tires under the Healy process and guaranteeing all their work.

It was New York to Ormond Beach on *Goodrich* tires, and not Diamond tires, as a report had it, regarding the Oldsmobile endurance run. Incidentally, the tires made a remarkable record, wearing out two sets of chain grips, the tires themselves arriving in perfect condition.

The International Rubber Co. (Milltown, New Jersey) point with pride to their record of but 2 1-10 per cent. of their entire output of tires last year replaced for all causes.

The Diamond Rubber Co. (Akron, Ohio) exhibited at the Chicago automobile show the largest pneumatic tires ever manufactured for use. They were made for a large limousine car built by the Westinghouse company at Pittsburg, and weighing over 6,000 pounds. The tires are made to metric measurements, but the size is approximately 42 1/2 x 8 inches.

The International Rubber Co. (Milltown, New Jersey) are distributing an attractive picture, "The International Girl," which is a copyrighted reproduction from the original production by Mr. Abbey Altson. They call attention to beauty as the visible expression of goodness, and intend the picture as a reminder of the good qualities of International tires.

The Puncture Proof Tire Co. (American Trust Building, Cleveland, Ohio) are making an all rubber cushion tire, built to fit clincher rims. It is puncture proof because, should it puncture, the air in the interior, not being under pressure, will not leak out, and its resilience comes wholly from the quality of the stock used in its manufacture.

An importation of rubber tire treads at New York was assessed for duty as "hard rubber," against which a protest was made. The board of appraisers sustained the protest, on the ground that the words "hard rubber," in the sense in which used in paragraph 450 of the tariff act, preclude "all manufactures of india-rubber except vulcanized india-rubber known as 'hard rubber.'"

A BOOK ON RUBBER PLANTING.

WHAT I SAW IN THE TROPICS. A RECORD OF VISITS TO Central, the Federated Malay States, Mexico, Nicaragua, Costa Rica, Republic of Panama, Colombia, Jamaica, Hawaii. By Henry C. Pearson. Editor of THE INDIA RUBBER WORLD. New York: The India Rubber Publishing Co., 1906. [Cloth 8vo. Pp. viii + 288. Price \$5.]

TO a greater extent, perhaps, than is true of any other important commodity, the sources of india rubber are remote from and unfamiliar to those who use it. Whoever explores one of the regions where rubber is native, perhaps may not, in a lifetime, meet a fellow-being who has had a like experience. The scenes of an important work now in progress, the creation of new rubber forests, of hundreds and thousands of square miles in area, are measurably nearer to the consuming world, and more accessible to the traveler. Still, they are in the tropics, and in great part lie where one doesn't go except on business.

The author of this book has undertaken, in simple narrative form, to convey a general idea of the principal regions in which man is supplementing the work of nature by starting rubber trees to grow where none grew before. What interested him he has assumed will possess interest for others, particularly those who are concerned with rubber in any way. But, leaving rubber aside, there is that in this volume which makes it an attractive book of travel for the general reader, one which informs without causing any suggestion that such is its purpose.

Mr. Pearson evidently started upon his tour with an open mind, without anything to prove or disprove, and he has written a plain record of what he saw. If he found rubber growing satisfactorily here, or giving less promise in another place, the fact was set down in his notes. Everywhere he has talked with the active workers in the new planting interest, and heard the story of their experiences, whether successful or otherwise, and learned upon what they base their hopes for the future in rubber. This is no planters' manual; it is left to others to discuss the proper distance between trees, or how often to "tap," or how rubber should be dried. It discusses general principles, and is of interest by reason of the suggestions for discussion that incidentally crop out all through the book.

The excellent illustrations, on nearly every page, and all based upon photographs, serve admirably to supplement the descriptive part of the work, besides adding to its attractiveness in appearance. S. C. L.

STANDARD PACKING OF WASTE RUBBER.

A CIRCULAR has been issued containing new regulations for the packing of old rubber boots and shoes, adopted at a meeting of reclaimers at New York, on February 13. The regulations follow:

"1. Deliveries of old rubber boots and shoes must consist entirely of boots and shoes of domestic manufacture; Canadian manufacture to be considered domestic manufacture.

"2. They must be dry and free from dirt.

"3. All cloth top shoes, trimmed or untrimmed, and soles or heels of rubber boots and shoes from which the uppers have been removed, shall not be accepted as a good delivery.

"4. Rubber boots and shoes containing metal, except that applied by the rubber shoe manufacturers, shall not be accepted as a good delivery.

"5. Rubber boots and shoes with leather soles or nails used in attaching them, shall not be a good delivery.

"6. Old rubber boots and shoes, Foreign as well as Domestic, shall be bought and paid for net weight, i. e., no allowance for bagging or covering of any kind shall be made, nor shall the same be returnable to the seller.

"7. All rejections contained in a delivery of old rubber boots and shoes shall be returnable to the seller upon his request, within thirty days from the time notification is received by the seller,

and upon payment by him of 1 cent per pound to cover cost of sorting and relabeling.

"8. Foreign old rubber boots and shoes contained in a delivery of Domestic old rubber boots and shoes shall be paid for at a reduction of 2 cents per pound.

"9. All Domestic rubber boots and shoes shall be bought on weight as determined at destination.

"10. Old rubber boots and shoes of Foreign manufacture shall be bought on same conditions as those of Domestic manufacture, e. i. f. port of entry, as determined by weigher's sworn certificate, seller to bear expense of weighing.

"11. The term 'Standard Packing, Circular No. 3' shall apply to all purchases and sales of Domestic and Foreign old rubber boots and shoes, made in accordance with the stipulations of this circular, which supercedes all previous circulars.

"12. The conditions of this circular shall take effect on April 1.

CONSOLIDATION IN CANADA

THE consolidation of the rubber industry in the Dominion, hitherto reported in these pages, has been further carried out by the inclusion of two other companies in the Canadian Consolidated Rubber Co., Limited. They are the Berlin Rubber Manufacturing Co., Limited, organized in 1899, at Berlin, Ontario, and the Merchants' Rubber Co., Limited, also at Berlin, and dating from 1903. There are thus five factories under the control of the Canadian Consolidated company.

CANADIAN TRADE NOTES.

At the annual meeting of the Rubber Boot and Shoe Jobbers' Association, in Montreal, favorable reports were read on the affairs of the organization during the year. The membership was shown to embrace 69 firms. It was resolved to establish the offices permanently at Montreal. The officers this year are W. A. Hamilton, president; Joseph Dauost, treasurer; N. L. Martin secretary.

The building occupied by the Winnipeg branch of the Canadian Rubber Co. of Montreal, Limited, has been enlarged by the addition of two stories, making it a five-story and basement building, 50 x 90 feet.

The agency for Nova Scotia and Prince Edward Island of the Berlin Rubber Manufacturing Co., Limited (Berlin, Ontario) has been taken by Goff & Co., wholesalers of shoes and rubbers, at Charlottetown, P. E. I.

The Canadian Rubber Co. of Montreal, Limited, have opened an additional sales branch in the maritime provinces, at No. 40 Dock street, St. John, New Brunswick, in charge of Mr. Paul R. Hanson, who has been connected with the company's sales in the Quebec division.

WANTS AND INQUIRIES.

[385] WE are in receipt of a request for the names of firms manufacturing rubber coated cloth in plain checks, plaids, etc., in fancy silk and other material. The line desired is for the manufacture of ladies' traveling toilet bags.

[386] Addresses of manufacturers of vulcanizers for making rubber stamps are desired by one of our correspondents.

[387] A correspondent wishes to know if the American rubber factories use any rubber and gutta substitutes (except vulcanized oils) not known in Europe.

[388] A gentleman having a very wide acquaintance with all the European manufacturers would like to correspond with some reclaiming house in America with a view to taking an agency.

[389] Names of rubber manufacturers are wanted who are interested in the solvent amyl acetate.

[390] An inquiry reaches us for names of makers of machinery for dealing with the celluloid industry.

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

THERE is to be included in Trenton's new River Park a tract of land that for some time was devoted to rubber manufacture. This is a section of the famous old Broad street mill property, on the bank of the Delaware river. Once far beyond the city limits, Trenton has grown so that the old stone mill is now within the municipality. The land just acquired by the city for the new park was bought from Ezra Evans, head of the old Reliance Rubber Co., for \$1,923.15. The mill was built by the late James Brook, once one of the leading spirits in Trenton, and whose son was a member of the firm of Brook, Oliphant & Co., founders of the Globe Rubber Co., now part of the United and Globe Rubber Manufacturing Cos. Used for years as a grist mill, the place was acquired a few years ago by the Reliance Rubber Co., and turned into a rubber mill. The Reliance company did not succeed and Ezra Evans bought the stock, and for several months the old mill has stood idle. Mr. Evans has been considering a proposition to re-open the mill and begin the manufacture of druggists' sundries. The matter has been placed before the re-organization committee of the Trenton board of trade.

VICE CHANCER EMERY has filed in the court of chancery at Trenton a memorandum denying the application of the Acme Rubber Manufacturing Co. (formerly the Eureka Rubber Manufacturing Co.) for a modification of the final decree of the court restraining the company from using the word "Eureka" in its corporate title or on certain rubber goods manufactured by it. The application was that the decree be so modified that, while continuing the restraint as to the name, it would have permitted the company named to use "Eureka" as a trade mark on goods not in competition with those manufactured by the Eureka Fire Hose Co.

SOME local rubber manufacturers are considering the question of establishing in Trenton a mill for the manufacture of cotton duck. This is due to the difficulty which they have experienced in obtaining this necessary raw material in quantities as needed. The Trenton rubber trade at present is unusually brisk, and the general verdict is that the delay in securing raw materials interferes with the quick filling of orders. The high price of duck is another thing that has brought on the agitation. Cotton yarns also being at top notch prices, the proposition is to erect mills for the spinning of yarns and for weaving them into duck. The proposition involves the association in the enterprise of all the principal rubber manufacturers in Trenton and its vicinity. It is reported that as soon as the local men reduce the plan to a practical working basis, certain Philadelphia cotton manufacturers stand ready to provide any additional capital that may be needed. One rubber manufacturer assured THE INDIA RUBBER WORLD correspondent that there was no doubt that a ready market could be found for all the duck that could be made. He thought that the surplus beyond the needs of the Trenton market would find quick sale in other centers.

MR. CLIFFORD H. OAKLEY, general manager of the Max-Grieb Rubber Co., of Trenton, was married on the evening of February 7 to Miss Elizabeth Moon, daughter of Mr. and Mrs. Daniel Moon, also of Trenton. The marriage was according to the custom of the Friends. After an extended bridal tour, Mr. and Mrs. Oakley will reside at No. 375 Hamilton avenue.

Quartermaster General C. Edward Murray, City Treasurer W. J. B. Stokes, and Mr. John S. Broughton, all prominent Trenton rubber manufacturers, gave material aid to the ball given in the Second Regiment armory, on February 7, for the benefit of the fund for the Mercer County Soldiers and Sailors' Monument. About 2,500 persons were present. Governor Edward C. Stokes

and a number of other prominent citizens were present to lend aid and attendance.

It is announced that the Firestone Tire & Rubber Co., of Akron, Ohio, has just completed the erection of a new building, probably the largest of its kind in the city. Though the company is not a Trenton resident, it has several offices in the city. Its headquarters have become too small for its needs. The leading product of the company is the famous Firestone tire, a woven steel armor of a special pattern.

Mr. Harry C. Evans, general manager of the United Rubber Co., is convalescing after an illness.

The William H. Skirm Rubber Manufacturing Co., of Trenton, was incorporated in the offices of the City of Trenton on February 14. It has an authorized capital of \$500,000 and the incorporators are William H. Skirm, William C. Moline, and John H. Kates. The charter states that the company will manufacture and deal in all kinds of rubber goods. It is understood that the intention is to erect a new rubber mill here. It is said that the concern will manufacture rubber insulation for copper wire and insulate the wire. United States Senator William A. Clark is said to be interested.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

AT a recent meeting of the directors of the Diamond Rubber Co., it was decided to increase the capitalization of the company from \$3,000,000 to \$5,000,000. The company's first move will be to increase its capitalization \$500,000, but the rest of the \$2,000,000 will be added within a short time afterward. The rapidity with which the Diamond's tire business has expanded during the past year or two has necessitated the increase. It is announced at the offices here that one, or possibly two, large buildings will be erected in the spring. Mr. W. B. Miller, secretary of the company, states that the additional stock is already being sold.

THE rubber industry at Akron is deeply interested in a decision rendered during the month at New York, sustaining the validity of the A. W. Grant patent on solid rubber tires. [This decision is reported on another page of this issue.] It is estimated here that Akron factories produce at least half of the 10,000,000 pounds of solid tire stock made yearly under the Grant patent. If the attempt of the Consolidated Tire Co. to collect royalties proves successful, it will mean a heavy drain upon the Akron companies. These are protected, however, in their trade in four states embraced in the sixth judicial circuit of the United States, under a decision rendered at Cincinnati in 1902. The Firestone Tire and Rubber Co., the unsuccessful litigants in the case just decided at New York, have not determined whether to carry the matter to the United States Supreme Court.

AKRON is to have still another rubber factory. The Star Rubber Co. has been incorporated here, with \$500,000 capital. The incorporators are Jefferson D. Slater, John W. Miller, Homer A. Hine, William Slater, and Fred M. Hall. The company has already purchased 30 acres of land, and a factory will be erected in the spring. Seamless druggists' sundries, and other rubber articles manufactured at the start, and about 100 persons will be employed. Mr. J. D. Slater, who will be general manager of the plant, has been connected with the Firestone Rubber Co. for many years.

The Gibson-Alling Co., manufacturers of rubber stamps, stencils, etc., has been incorporated here, with \$250,000 capital, by G. E. Gibson, A. L. Alling, C. Gibson, George C. Alling, and M. Ohm.

News of the American Rubber Trade.

UNITED STATES RUBBER COMPANY MERGER.

AT the meeting of the directors of the United States Rubber Co. in New York, on February 7, a committee was appointed to deal with the question of liquidating as a separate corporation the Rubber Goods Manufacturing Co., of which more than 90 per cent of the shares have been acquired by the United States company under the merger plan of May 27, 1905. The ultimate liquidation of the Rubber Goods Manufacturing Co. has been intended ever since it came under the control of the United States Rubber Co., but the accomplishment of this purpose has been postponed from time to time to afford to the holders of any outstanding common stock the most ample opportunity to avail of the offer heretofore made by the United States company. The object in bringing about a more complete merger of the two companies is to institute economies in the operating and selling departments. Owing to the difference in the character of the products of the two corporations, distinct selling agencies have existed hitherto, and it is believed that by their consolidation an important saving may be accomplished. The directors of the Rubber Goods Manufacturing Co. have also held meetings bearing upon the same subject. The Rubber Goods Manufacturing Co., incorporated in 1890, is a combination of mechanical goods and rubber tire factories, capitalized at \$25,000,000.

NEW FACTORY AT DETROIT IN OPERATION.

THE Detroit Insulated Wire Co. (Detroit, Michigan), the incorporation of which was reported in THE INDIA RUBBER WORLD, November 1, 1906 (page 58), have built and equipped a thoroughly modern plant for the manufacture of rubber-covered wire. Those departments of the factory in which insulation is applied to small sizes of conductors are completed and in operation. The other departments are being placed in readiness as rapidly as the present congested condition among manufacturers of machinery will permit. Mr. J. H. Hunter, vice-president of the company, is in charge of the manufacturing operations, and Mr. Arthur Hartwell, the secretary-treasurer, of the department of sales.

"FRICTION PLUG" PATENTS AGAIN SUSTAINED.

THE Foster Rubber Co. (Boston) and the Walpole Rubber Co. (Walpole, Mass.) have consolidated their rubber heel and sole business. This will eliminate all litigation between the two companies over the patents on "friction plug" non-slipping heels and other specialties. Hereafter the goods covered by the Foster patents will be made at the Walpole Rubber Works, which have been enlarged for the purpose, while the entire selling of the goods will be done by the Foster Rubber Co. The salesmen employed formerly by the Walpole company have been taken over by the Foster Rubber Co. Four brands of non-slip heels will now be made under the Foster patents: Foster, "Cat-paw" (made formerly by the Walpole company), "Fredair" (made formerly by the Fredair Rubber Co.), and "Diamond." The combined output of "friction plug" heels is now 8,000 to 10,000 pairs a day. Mr. S. H. C. Mier, of the Canadian rubber trade, is one of the largest shareholders in the Foster Rubber Co.

REVERE RUBBER CO. EMPLOYEES' "FIFTH ANNUAL."

THE fifth annual banquet of the clerks and salesmen of the Revere Rubber Co. (Boston), at the Hotel Brunswick, on the evening of January 25, as usual, was well attended, and proved a thoroughly enjoyable affair. There were 45 present, exclusive of entertainers. An appropriate tribute was paid to the memory of the late George C. Shirts, a member of the association. G. Arthur Gray was toastmaster, and was the recipient of a silver loving cup from his associates in the Boston offices. Toasts were re-

sponded to as follows: "Home Office," by C. H. S. Wetmore; "Boston Store," by E. D. Lombard; "Factory," by W. H. Tucker. Mr. Philmer A. Sample gave an illustrated talk on Porto Rico.

To the list of souvenirs of these interesting annual events is added this year "The Chelsea Farmers' Almanac," by "G. R. Thurgoray," a strikingly rich compendium of wit.

STOUGHTON GOLF BALL FACTORY SOLD.

THE golf ball factory of the Stoughton Rubber Co. (Stoughton, Massachusetts) has been purchased by A. G. Spalding & Brothers (New York). The factory was erected several years ago, was well equipped, and is in good condition. The introduction of the rubber-cored golf ball, however, interfered with the sale of its products, and the Stoughton company failing to secure a license under the rubber-cored ball patents, whereas the Spalding company do hold such license, these facts led to the transfer of the factory as stated. Meanwhile the Stoughton Rubber Co. are reported to have done a good business in selling to the trade a covering compound for golf balls, but the growth of the other branches of their production has made it seem desirable to dispose of their golf ball trade altogether.

TWO NEW CROCKER RUBBER SHOES.

THE Salem Rubber Co. has been incorporated under the laws of Massachusetts to conduct a general rubber store at Salem. George I. Crocker, of Brockton, is president; Isaac Crocker, treasurer, and Russell H. Weeks, clerk. The Worcester Rubber Co., at Worcester, Massachusetts, has also been incorporated with Albert H. Bloss, president; Isaac Crocker, treasurer, and Fred A. Jewell, clerk. The Crocker chain of wholesale and retail rubber stores in Massachusetts and Rhode Island now numbers six.

MONOPOLY IN DISC SOUND RECORDS.

THE American Graphophone Co. (Bridgeport, Connecticut) have won recently three cases in the United States court, which give them a monopoly of the manufacture and sale of disc sound records in the United States. One suit was brought by the Victor Talking Machine Co., as licensees under the Berliner patent, for hard rubber records. It was their contention that while disc records to-day are not made of hard rubber, they are made of a substance so nearly resembling it as to be fairly included in the scope of the Berliner patent. The court held that the patent was limited strictly to hard rubber, and therefore did not apply to the product of the American Graphophone Co.

THE PARA IMPROVEMENT COMPANY.

THE president of Brazil has signed a decree granting the right to operate in that republic of the company Port of Pará, incorporated in September last under the laws of Maine (United States), with \$17,500,000 capital authorized, to improve harbor conditions at Pará. [See THE INDIA RUBBER WORLD, January 1, 1907—page 130.] The Brazilian government guarantees the undertaking by levying a special import tax of 2 per cent. on imports at Pará, or so much of the proceeds as may be needed, until the company's income equals 6 per cent on its capital shares. The company's bonds have been placed in various European markets. The Port of Pará has made contracts with the firm of S. Pearson & Sons, Limited, for the work below water, including dredging, and with H. Schneider et Cie. (Creusot, France) for the work above water and material. The concession on which this whole undertaking is based is that granted by Brazil in 1905 to Percival Farquhar, an engineer, whose offices, No. 86 Broadway, New York, are at present the headquarters of Port of Pará. Mr. Farquhar is president of the company.

TRADE NEWS NOTES.

The capital of the Revere Rubber Co. (Boston) has been increased from \$1,500,000 to \$2,000,000.

The Binghamton Shoe and Rubber Co., at Binghamton, New York, have filed articles of incorporation at Albany, with \$50,000 capital, to do a tanning business in footwear. The directors are T. B. Crary, John J. Burns, A. J. Parsons and J. E. Hoesehel. This is a consolidation of two tanning firms in Binghamton.

The Housatonic Rubber Works, Inc., reclaimers of incured rubber scraps, at Bridgeport, Connecticut, have been sending to their friends in the trade some attractive souvenirs, in the shape of exceedingly handsome leather cigar cases.

The annual report of the American Can Co. shows gross earnings for 1906 of \$2,534,397. They were obliged to deduct for the losses in San Francisco and elsewhere, so that the net profit is only \$243,421. Dividends were paid amounting to \$515,410. New factories are in course of construction at New Orleans and Savannah, and another has been authorized at New Castle, Pa.

The Woonsocket Rubber Co. have granted to the city of Woonsocket sewer rights on the premises of the "Alice" mill, over a tract 15 feet in width. The grant is twice as much as the city asked for, and has been made with a view to encouraging the establishment on adjoining premises of a new factory in the wooden industry, which would contribute to the prosperity of the city.

The directors of the Rubber Goods Manufacturing Co. on February 2 declared the thirty second regular quarterly dividend of 13 1/2 per cent. on the preferred shares, out of earnings, payable March 15 to holders of record March 8.

The employees of the New York Rubber Co. received double pay during the week ending February 4, an annual custom of the company which is much appreciated by those in its employ.

The trustees of the first mortgage 6 per cent. bonds of The Mechanical Rubber Co. announced recently their readiness to expend the sum of \$75,237.57 in the purchase of bonds of that issue, if offered at an advantageous rate.

TRADE NEWS NOTES.

The Continental Cable Co. of New York City has filed articles of incorporation under the laws of New York with \$200,000 capital. The directors are J. W. Lee, W. B. Condit and Edwin Binney.

Mr. C. F. Nichol's, who has been connected with the shoe trade for some ten years, has been engaged to represent in New York city, the Amsterdam Rubber Co., distributors of Bangor rubbers.

The Independent Rubber Co. (Fort Wayne, Indiana), wholesale of the Flood Rubber Co.'s rubber to two cities, completed their fifth year during the past month. Their business has grown until it occupies the whole of a seven-story improved building, at No. 129 East Columbia street.

The Mishawaka Wooden Manufacturing Co. gave a banquet at the Oliver Hotel, South Bend, Indiana, on the evening of January 31, to the members of the firm of Dunham Brothers (Brattleboro, Vermont), and their eighteen New England salesmen.

Dunham Brothers (Brattleboro, Vermont), in addition to the "Ball brand" of rubber footwear, made at Mishawaka, and for which they are New England agents, have introduced two new brands for which they have the exclusive sale, "Victor" (first quality) and "Reliance" (second quality).

The new factory of The B. & R. Rubber Co. (North Brookfield, Massachusetts) was mentioned in the last INDIA RUBBER WORLD as having begun making up samples. It is learned that within a few hours after the first sample goods were put out, orders were received for \$50,000 worth, mainly of rubber heels. An official of the company states: "Business has been coming our way since the first day, and our biggest problem at the time is to take care of the business we have accepted."

The capital of the Standard Underground Cable Co. (Pittsburgh, Pennsylvania) has been increased recently from \$2,000,000 to \$3,000,000. The INDIA RUBBER WORLD is advised by an official of the company: "We have not published any annual report for the year 1906, in view of the fact that our stockholders are all

local people, and were fully advised as to the conditions of the company at the annual stockholders' meeting."

Mr. William H. Gilbert, who has been employed by the Joseph Bangor Rubber Co. (Providence, Rhode Island) for several years, has been appointed assistant general manager. Such an appointment has become desirable for the reason that Mr. Walter S. Ballou, general manager of the company, is also a member of the board of directors and of the executive committee of the United States Rubber Co., and obliged to be in New York a good deal.

It is stated that the Consolidated Rubber Tire Co. (New York) will pay this year 3 per cent. on their income bonds, as against 2 per cent. last year. The payment will be due on April 1.

The Milford Rubber Cement Co. (Milford, New Hampshire) were mentioned last month as having begun operations. George P. Morse is president, P. H. Farley treasurer, and J. E. Morse secretary.

The Messrs. Morse are owners of the Morse Blacking Co., of Boston.



JAPANESE HEADQUARTERS OF AN AMERICAN RUBBER FIRM.

[Built by the firm, at Osaka, Japan, of the Gorham Rubber Co. of San Francisco, Cal. The building is at 3, Nishinagahori Kita-Gochome, Osaka, and the manager Mr. S. Sawatari.]

The Palmer tire—American, Goodrich make—is an increasing factor on the bicycle this year.

TRADE NEWS NOTES.

It is stated that the Glenark Knitting Co. (Woonsocket, Rhode Island) will not start their Glenark mill before a year, and that they prefer to sell it.

The Omaha Rubber Co. (Omaha, Nebraska) are reported to be planning a new building, larger than that now occupied by them, and to cost \$60,000 or \$70,000. This corporation some time ago acquired the business of E. H. Sprague & Co., jobbers of rubber footwear and waterproof clothing, founded in 1897, Mr. Sprague remaining in charge. It is now proposed to take on a general line of rubber goods.

Mr. Frank K. Hadley, connected formerly with Hadley Cement Co., has become factory superintendent of the St. Louis Rubber Cement Co.

Sherwood B. Foote, receiver of the Falcon Rubber Co. (New Haven, Connecticut) recently applied to the court for permission to pay a dividend of 40 cents on the dollar—the first payment in respect of liabilities amounting to about \$18,000.

The latest "rubber trust" rumor comes from Lynn, Massachusetts, and relates to a proposed combination of rubber cement factories, Standard Oil Co. interests being concerned.

The "Marvel" whirling spray syringe is reported to have been awarded the gold medal offered for goods of its class by the Société d'Hygiène de France, at Paris.

A fire occurred on Sunday, February 10, in the basement of the rubber goods store of John W. Buckley, No. 69 Warren street, New York. The damage to property was not great, but several firemen were temporarily overcome by fumes from the burning rubber.

Eastern Talc Co. (Boston) are making two grades of talc from their mines at East Granville, Vermont. One is sold to the bulk of the rubber trade, as suitable for the majority of mechanical goods. The other, bolted through 200 mesh cloth, is suitable for the finer work, such as druggists' sundries. Each particle of this will pass through an aperture 1-40,000 square inch in cross section.

The main building of the new plant which Jenkins Brothers (New York), valve manufacturers, are erecting in Montreal, will be 200 x 50 feet. There will also be a foundry 150 x 64 feet, and an engine and boiler house, 60 x 45. Later they intend erecting another foundry, 100 x 60 feet.

The Sears, Roebuck Co., a mail order house whose dealings in rubber goods alone would equal the business of a good-sized store, report total sales for January of \$3,278,435, against \$2,742,239 for the same month last year. The net profit for the second half of 1906 was \$1,837,237—divided between dividends, \$349,982, and surplus, \$1,487,255. The cost of advertising for the six months was \$1,544,763.

Angie W. Pierce, who resigned as superintendent of the druggists' sundries department of the National India Rubber Co. (Bristol, Rhode Island) in December, 1905, has returned to that position. Previous to the date mentioned he had been continuously in the employ of the company since September 6, 1865.

It is stated that approximately 75 per cent. of the world's supply of pencil graphite is furnished by the mines of the United States Graphite Co. in the Mexican state of Sonora.

The various branch managers and department heads of the H. W. Johns-Manville Co. held their annual convention at the headquarters of the company, No. 100 William street, New York, during the last days of January, concluding with a banquet at the Waldorf-Astoria on the evening of February 1. The company have factories in four cities and branch offices and warehouses in fifteen.

The new United States pure food laws are now attacking an industry that is somewhat akin to the rubber business. According to report manufacturers of chewing gum will hereafter be barred from adding talc to their product, as health experts hold that it is not nutritious.

TRADE NEWS NOTES.

The Globe Mills Rubber Co. (Lawrence, Massachusetts) plan this year to more than double their output of 1906. The company are busy now getting out footwear samples for the coming season's trade.

The new "Revelation" comb made by the Harburg Rubber Comb Co., being hollow backed, is lighter in weight than other combs, possessing the distinct advantage that, like ivory soap, "it floats."

Mr. Myles Percy Fillingham, who for twelve years was with the Farrel Foundry and Machine Co., has connected himself with the Aiton Machine Co. of New York and Harrison, N. J., having taken charge of the rubber mill machinery department.

A new rubber factory is in prospect for San Francisco, which, it is said, will be devoted to the manufacture of mechanical rubber goods. It will be under the control of one of the most important jobbing houses on the Pacific coast, and will cater especially to Chinese, Japanese, Mexican, and Australian trade.

The Wellman Sole Cutting Machine Co. (Medford, Massachusetts) have adopted the shorter name, Wellman Company, and hereafter all correspondence should be addressed accordingly.

Mr. Frederick T. Ryder, Jr., has resigned a position in the offices of the Boston Rubber Shoe Co., to take charge of the rubber department of the Charles D. Griffith Shoe Co. (Denver, Colorado), makers of leather footwear and large handlers of the Boston Rubber Shoe Co.'s products.

The Automobile and Power Boat Show, to be held in Boston, in the Mechanics' and Horticultural buildings, on March 6-10, is expected to be larger than last year, while arrangements are under way for making it, in the matter of appearance, the most attractive automobile show in the country.

The rubber exporting firm at Para and Manaus, with whom Bod & Arnold (New York) are affiliated, exported last year 21,600,000 pounds of the total of 76,000,000 pounds going out of the Amazon to the United States and Europe.

Officials of The B. F. Goodrich Co. announce that work upon their proposed new office building will be started as soon as the weather will permit, and that the structure will be one of the finest in the city. When the new building is completed, the different offices, which are at present distributed about the factory and are known as department offices, will be gathered under the same roof with the others.

Peter S. Sherbondy, who was an employé of The B. F. Goodrich Co. for 32 years, and who had been on the company's list of pensioners for several years, died recently. Mr. Sherbondy was 75 years old, and had made Akron his home all his life.

The certificate-holders of the Monte Cristo Rubber Plantation Co. (Greeley, Colorado) have been informed that the next inspection, in their behalf, of the company's property at Palenque, state of Chiapas, Mexico, will be made by George P. Avery and S. A. Rice. Forty acres have been planted to rubber, and 300 acres additional cleared.

A party of visitors to the plantation of the Batavia Co., Inc. (Milwaukee, Wisconsin), in the state of Oaxaca, Mexico, left for that place about the middle of February. It included Mr. Ceylon E. Lyman, president of the company, and a score of others from Minneapolis, St. Paul, Chicago, Milwaukee and Los Angeles. The party expected to witness the first tapping of a few hundred of the six-year-old rubber trees on the plantation, and if results warrant several thousand trees of this age will be tapped lightly later in the year.

A petition in bankruptcy has been filed against the Munger Vehicle Tire Co. (New York), by three creditors, the principal one being Louis de F. Munger, a former director, and in whose favor the company, in November last, confessed judgment in the sum of \$11,881, in his suit for breach of contract for services. The company formerly manufactured tires, but has not been active for several years.

ANTWERP AND CONGO RUBBER.

IN their annual review of the Antwerp market for 1906-1907, Grisat & Co., the official brokers, devote their attention mainly to the efforts now making to prevent the decline of rubber production in the Congo Free State by forming plantations. First may be introduced a table of the arrivals of rubber at Antwerp during the last 10 calendar years:

YEAR	Congo State	Other Sources	Total
1897.....	1,557,864	121,293	1,679,154
1898.....	1,734,305	286,286	2,014,591
1899.....	2,992,414	410,416	3,402,880
1900.....	4,092,003	799,932	5,098,935
1901.....	5,417,459	431,749	5,849,202
1902.....	4,992,954	411,931	5,493,885
1903.....	5,186,491	549,982	5,726,483
1904.....	4,723,518	1,040,238	5,765,856
1905.....	4,412,907	1,271,121	5,713,728
1906.....	4,593,759	1,178,393	5,772,062

Messrs. Grisat & Co. say:

"As stated in our last review, the measures taken by the Congo Free State to prevent abuses and the destruction of the State forests have tended to put the rubber crop on a steady and normal basis. On the other hand, the imports from the French Congo show a deficit, owing to the new market at Havre. Congo imports are of excellent quality, and much sought by buyers, with rising prices. Among the different sorts, we especially mention those from the plantations of Asia, which come regularly and fetch the highest prices known in rubber history.

"Rubber planting goes on steadily in the Congo basin, and more systematically than in the past. In the region under review, 2,500,000 trees and lianas were set out in 1905, which brings the total to 15,000,000 plants set out in accordance with the law. To arrive at the actual number now standing we may deduct 2,000,000 plants for losses, due to ignorance on the part of the planters' agents, or to negligence, or to the abandonment of plantations formed under bad conditions.

"Notwithstanding the planting done by the plantation companies as required by law, the State has engaged in rubber culture wherever it promises good results. These State plantations now number some 8,500,000 *lianas* and 750,000 *Euntomia elastica* trees. The *Hevea* plantations, though much less important, deserve mention here; and the results obtained from this source have all along been satisfying. The State requires the propagation of this species where the soil and climate seem most favorable. For this purpose 20,000 *Hevea* seeds have been sent to the Congo this year. About 95 per cent of these arrived in good condition and were distributed among the principal centers on the lower Congo and in the Ubangi and Lualaba Kasai districts. Besides these, the older *Heveas* at Boma, Colquihlatville, and New Antwerp will yield a good crop of seeds this year. Studies carried on for some years enable us to classify the rubber trees and creepers indigenous to the Congo according to their relative importance, from the standpoint of the care which they demand, their vigor, and their productivity. The classification is:

"*Landolphia Klainii*

"The 'Bendawe' or 'Lemoze' liane, from Urbangi

"*Landolphia Ov. ricensis*, *L. Proguicansiana*, and *L. Gentili*, and *Clitandra Arnoldiana*.

"The indications are that well managed plantations will in the future replace the wild growths as rubber sources, both because of their better yield and easier exploitation, while that of the forest becomes more difficult. We heartily approve of the efforts of the Congo Free State to foster a desire for better methods of culture, which must have a good effect upon the morality of the natives, as well as rendering their work easier.

"It might be well here to speak of the real progress made in the Far East, where the planting of *Hevea Brasiliensis*, he-

gum some ten years ago, is now a reality. The proof may be cited the establishment of the Malay States and the Federated Malay States in English hands.

	1902	1903	1904	1905
Ceylon.....	5,527,347	7,728,772	10,212,168	168,547
Malay States.....	1,000,000	1,300,000	207,500	

"The regular and constantly increasing production from these plantations can not fail to play an important part in the rubber trade."

FIGGIS'S ANNUAL REVIEW.

THE annual review of the crude rubber trade by S. Figgis & Co. (London) is devoted principally to Plantation rubber, the increase in supply of which they mention as having been beyond expectations. Their estimate of actual shipments is:

From Ceylon.....	70 tons in 1905; 100 tons in 1906
From Malay States.....	75 tons in 1905; 350 tons in 1906
Total.....	145 tons in 1905; 510 tons in 1906

The preparation and quality, as a whole, have been excellent and suitable to manufacturers, who have paid high prices for fine lots of nice color and transparency when clean and resilient. If "block" rubber is to be shipped, the Messrs. Figgis suggest blocks not exceeding 3 inches in thickness and 12 inches long, not more than 10 pounds in weight and packed in cases of 1 cwt.

As was anticipated, the extra price of plantation fine compared with Pará fine was diminished with the larger supply of the former, and may be expected to more nearly approach the fine Pará price with a larger output from the plantations. So far, plantation rubber has not gone into consumption for the larger uses of rubber, manufacturers having refused to pay a premium for it except for special purposes, mainly solution. No doubt, when the supply of plantation increases, manufacturers will apply it to larger uses. The area planted to rubber or planting, in the Far East, is estimated as follows, including rubber mixed with tea and other crops:

Ceylon.....	100,000 acres	Java.....	20,000 acres
Malay States.....	60,000 "		
Borneo.....	12,000 "	Total.....	222,000 acres

The world's production of rubber for 1906 is estimated at nearly 65,000 tons, and the consumption nearly as great. The supply from the Amazon showed no reduction. The output of rubber in other sections of Brazil, especially "mamgoela," has been stimulated by companies working with large capital. The year shows a net decline of 2 pence on fine Pará goods, but a penny advance on negroheads, owing to scarcity. On caucho ball there has been a rise of 5d. per pound, following an advance of 6d. the year before.

INDURATED FIBER INSULATOR.

RECENTLY advantage has been taken of the insulating properties of indurated fiber to apply it to insulation uses. It is stated that 1/8 inch thickness of the material will withstand 23,000 volts without puncture or breakdown, and 1/4 inch 40,000 volts. Indurated fiber is now used as a covering for wire, particularly in exposed places. It is also employed for battery jars, transformer jars and covers, and the Western Union Telegraph Co. are using it for resonators. An important application is in third rail work. A considerable portion of the tracks of the New York Central Railroad, in the electric zone of flat road near New York City, is being equipped with this material. Indurated fiber is likewise used for protecting the third rails on the elevated and subway roads in New York. The fiber can be molded so as to fit closely any form of rail, and it serves to protect rails against corrosion and ammonia salts from the streets, as well as against accidental contact.

TRADE NEWS NOTES.

A book with the title "The Horse," containing suggestions for the proper care of the horse in and out of the stable, is published by the Joseph Dixon Crucible Co. (Jersey City, New Jersey). This book will appeal to all who own or handle horses, and will be sent free to those requesting a copy.

Goodyear's India Rubber Selling Co. (New York) have filed articles of incorporation under the New York laws, to deal in rubber goods, with \$25,000 capital stated. Incorporators: C. Van Vleet, Edward R. Rice, Homer E. Sawyer, Samuel Norris, and John D. Carberry.

The United States treasury department notifies a drawback on dress shields and infants' specialties manufactured by the Canfield Rubber Co. (Bridgeport, Connecticut), with the use of imported binding, heading, tape, lace, and Japanese silk, equal to the duties paid on the imported materials, less 1 per cent.

The Beaver Rubber Clothing Co., Limited, of No. 425 St. James street, Montreal, inform THE INDIA RUBBER WORLD that they were only slightly damaged by the fire of January 3. They will not have to change their location, and orders have been filled as usual. Their travelers were starting out on January 14.

The Motor Car Equipment Co. (No. 55 Warren street, New York) have taken the agency for the "Pirelli" high and low tension rubber cable, suited for automobile construction, and made by Pirelli & Co., of Milan, Italy.

On March 1 the Raw Products Co., who have been at No. 41 Park row, New York, will move into larger offices at Nos. 121-123 Front street.

It is understood that the Milwaukee Rubber Works Co. (Cudahy, Wisconsin), for some time past in the hands of receivers, is about to be reorganized, with \$1,000,000 capital. It is intended to double the capacity of the factory, and add a reclaiming plant.

The Reinforced Hard Rubber Co. (Jersey City, New Jersey) is in the hands of receivers, and the factory has not been in operation for some time past. Plans are being projected, however, for the resumption of work. THE INDIA RUBBER WORLD is advised that the plant, for the present at least, will not be removed to Baltimore as has been reported in some of the newspapers.

TRADE NEWS NOTES.

THE directors of the Manufactured Rubber Co. (Philadelphia) have declared a dividend of 4 per cent. on the preferred stock, payable on March 1. The last previous disbursement was 2 per cent. on October 10 last.

Mr. Albert S. Le Vine has resigned from the sales department of the Ajax-Grieb Rubber Co. (Trenton, New Jersey), with the purpose, it is understood, of returning to the automobile trade.

Goldberg & Rathburn, dealers in new and old metals and rubber, 280-293 Commercial street (Boston), have met the needs of a growing business by taking the building adjoining their present location, thus making their new address Nos. 285-293 Commercial street.

The receivers of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey) reported to the New Jersey chancery court on February 18 having received three separate offers for the plant, but neither was approved by the court. It was thereupon ordered that the plant be offered for sale on May 3, unless a satisfactory offer should sooner be made. Meanwhile, proceedings in bankruptcy have been instituted in the United States court.

San Francisco held her first big automobile show, in the Coliseum building, during the week beginning February 18.

Mr. Richard H. Pease, president of the Goodyear Rubber Co. (San Francisco) will leave for his regular Eastern buying trip about the middle of March. He was in New York last year at the date of the San Francisco fire.

Monsieur Edouard Michelin, one of the proprietors of Michelin & Cie (Clermont-Ferrand, France) was a visitor to the United States during the past month.

A CORRECTION.

THE statement in a report on the tires at the Madison Square Garden automobile show, in the last INDIA RUBBER WORLD, that "the International Rubber Co. are making Dunlops," got into print through an inadvertence. The only Dunlop tires made in the United States are made under patents owned by the Hartford Rubber Works Co., either by the Hartford company or affiliated concerns.

Review of the Crude Rubber Market.

DURING the latter half of February the New York market showed a decrease in activity, due in part at least to a feeling that the winter sale on the 22d, embracing about 508 tons, would result in lower prices. The number of lots offered on that date was unusually large, involving a great number of grades, and in the absence of definite indications it is undecided whether the average paid shows a decline or an advance as compared with January prices. In any event the change was slight, and the chances of other grades of rubber entered the market more amply, with no serious prices as an inducement.

Prices for Para sheets are slightly lower, however, than at the beginning of February, but this is the season of the largest arrivals of the year. Up to date, however, no arrivals for the Para season have been smaller than during recent years. Advises to February 18 show total arrivals for the season (including arrivals of 21,810 tons. Arrivals last year to the end of February were 21,320 tons, in 1904 5,000 tons, and in 1903 4,213 tons. It is generally believed, however, that there are important accumulations of stock, delayed in shipment.

Following is a statement of prices of Para grades, one year ago, one month ago, and on February 27 of this date:

	Feb. 1, '06	Feb. 1, '07	Feb. 20
Islands, fine, new	125 @ 126	118 @ 119	118 @ 119
Islands, fine, old	none here	none here	none here
Upriver, fine, new	128 @ 129	123 @ 124	122 @ 123
Upriver, fine, old	none here	127 @ 128	126 @ 127

	Feb. 1, '06	Feb. 1, '07	Feb. 26
Islands, coarse, new	75 @ 76	72 @ 72½	71 @ 72
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	94 @ 95	97½ @ 98	97 @ 98
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	72½ @ 73½	78 @ 79	77 @ 78
Caucho (Peruvian) ball	70½ @ 80	66 @ 67	95 @ 96
Ceylon (Plantation) fine sheet		137 @ 138	137 @ 138
AFRICAN		CENTRALS	
Sierra Leone		Esmeralda, sausage	93 @ 94
1st quality	107 @ 108	Guayaquil, strip	75 @ 76
Massé, red	107 @ 108	Nicaragua, scrap	92 @ 93
Benquella	77 @ 78	Panama, slab	70 @ 71
Cameroon ball	78 @ 79	Mexican, slab	71 @ 72
Acra flake	22 @ 23	Mexican, slab	71 @ 72
Lopori ball, prime	115 @ 116	Mangabeira, sheet	65 @ 70
Lopori, strip, prime	104 @ 105	Guayule	@ 48
Madagascar, pinky	80 @ 81	EAST INDIAN	
Ikelemba	110 @ 117	Assam	94 @ 95
Soudan niggers	92 @ 93	Borneo	50 @ 57

Late Para cables quote:

	Per Kilo		Per Kilo
Islands, fine	5800	Upriver, fine	6800
Islands, coarse	—	Upriver, coarse	4800
Exchange, 15 @ 16d.			

Last Mana's advices:

Upriver, fine	68700	Upriver, coarse	48200
Exchange, 15 17 32d.			

Statistics of Para Rubber (Excluding Cauchó),

	NEW YORK				
	Fine and Medium	Coarse	1906	1907	1905
Stocks, January 1	173	3	176	22	69
Arrivals, January	1034	550	1500	1804	2073
Aggregating	1207	550	1700	92	2142
Deliveries, January	1083	555	1638	170	1685
Stocks, January 31	124	4	128	224	157
	PARA				
	1907	1906	1905	1907	1906
Stocks, January 1, <i>Tons</i>	585	200	305	570	175
Arrivals, January 1, 1907	3330	4720	3775	680	505
Aggregating	3330	5305	3075	1015	1135
Deliveries, January 1, 1907	2305	3845	2710	700	675
Stocks, January 31, 1907	905	1400	1250	345	400
World's visible supply, January 31, 1907	2,587	4,062	2,972	1,800	1,995
Para receipts, July 1 to January 31, 1907	10,730	18,310	10,320	18,310	10,320
Para receipts of Cauchó, same dates	1,055	2,005	1,504	1,055	2,005
Afloat from Pará to United States, Jan. 31	99	721	529	99	721
Afloat from Pará to Europe, January 31	950	1,197	675	950	1,197

Antwerp

ANTWERP STATISTICS FOR DECEMBER					
DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Nov. 30, <i>kilos</i>	714,010	635,206	611,720	680,142	185,991
Arrivals in Dec.	630,460	474,175	581,844	938,158	790,230
Congo sorts, . . .	570,700	430,404	460,380	500,045	700,150
Other sorts, . . .	56,760	37,771	121,458	38,213	30,080
Aggregating, . . .	1,351,379	1,109,471	1,193,570	1,318,300	985,197
Sales in December	693,195	374,284	652,200	707,400	327,092
Stocks, Dec. 31 . . .	658,184	735,187	541,301	610,900	658,105
Arrivals since Jan. 1	5,772,062	5,713,728	5,703,850	5,720,483	5,403,985
Congo sorts, . . .	4,593,759	4,442,007	4,723,018	5,180,401	4,902,954
Other sorts, . . .	1,178,303	1,271,721	1,040,238	540,082	411,031
Sales since Jan. 1	5,849,065	5,519,805	5,833,395	5,773,608	5,160,589

COMPARATIVE ANTWERP PRICES—EXTREMES
[In Francs per Kilogram.]

GRADES.	1904.	1905.	1906.
Kasai, red, l. . .	10.32 ¹ / ₂ = 11.15	11.40 = 12.60	12.50 = 13.25
Equateur, l. . .	10.50 = 11.25	11.25 = 12.67 ¹ / ₂	12.72 ¹ / ₂ = 13.40
Lopori, l.	10.50 = 11.25	11.25 = 12.07 ¹ / ₂	12.72 ¹ / ₂ = 13.40
Uele,	9.60 = 10.20	10.35 = 11.35	11.30 = 12.
Aruwini,	9.60 = 10.20	10.35 = 11.35	11.30 = 12.
Upper Congo, . . .	10.75 = 11.75	10.75 = 12.15	11.35 = 12.25
Lower Congo, . . .	10.75 = 11.75	10.75 = 12.15	11.35 = 12.25
Thimbles,	5.50 = 6.50	5.50 = 6.50	6.50 = 7.
* Fine Pará,	48.11 ³ / ₄ d. = 58.5d.	48.11 ³ / ₄ d. = 58.7d.	58.0 ¹ / ₂ d. = 58.5d.

[* In English money, per pound.]

10 Francs per Kilogram = 87¹/₂ Cents per Pound

JANUARY 14—By the <i>Brucellesville</i> , from the Congo:	
Bunge & Co., (Société Generale Africaine) <i>kilos</i>	114,000
Do, (Société Anversoise)	1,500
Do, (Comité Spécial Katanga)	3,000
Do, (Société A. B. I. R.)	8,500
Do, (Comptoir Commercial Congolais)	17,000
Société Coloniale Anversoise (Belge du Haut Congo)	4,000
Do, (Sud Kamerun)	1,000
Do, (Cie de Lomani)	3,000
Do,	1,000
L. & W. Van de Velde, (Cie du Kasai)	110,000
Do,	7,000
Société Generale de Commerce, (Minaidienne)	7,000
M. S. Cols., (Ikelemba)	400
	285,200

FEBRUARY 4—By the <i>Albertville</i> , from the Congo:	
Bunge & Co., (Société Generale Africaine) <i>kilos</i>	174,000
Do, (Société Anversoise)	24,000
Do, (Cie du Kasai)	67,000

Bunge & Co., (Société Generale Africaine) <i>kilos</i>	174,000
Do, (Société Anversoise)	24,000
Do, (Cie du Kasai)	67,000
M. S. Cols., (Ikelemba)	400
Société Generale de Commerce, (Minaidienne)	7,000
L. & W. Van de Velde, (Cie du Kasai)	110,000

London.

		1906.	1905.	1904.	1903.	1902.
JANUARY 1.	Malaya plantation rubber, weight amounting to 21 tons, on third.	58.10d. [58.14d.]	58.10d. [58.14d.]	58.10d. [58.14d.]	58.10d. [58.14d.]	58.10d. [58.14d.]
	from Rangbadi estate. A small lot sold at 58.13d. [58.15d.]	58.13d. [58.15d.]	58.13d. [58.15d.]	58.13d. [58.15d.]	58.13d. [58.15d.]	58.13d. [58.15d.]
	The average price of fine hard Pará sold up to 58.20d.	58.20d.	58.20d.	58.20d.	58.20d.	58.20d.

Rubber Receipts at Manaus

DURING December and six months of the crop of the three years [courtesy of Messrs. Scholz & Co.]:

	December.			July December.		
	1906.	1905.	1904.	1906.	1905.	1904.
Rio Parais Acre, (Tons)	411	546	315	2,368	2,833	2,609
Madeira,	444	379	437	1,602	1,637	1,656
Jurua,	480	528	510	1,347	1,436	1,254
Javary Equos,	440	479	658	1,806	1,663	1,806
Solimoes,	359	371	370	478	645	434
Rio Negro,	356	316	74	214	98	175
Total,	1,979	2,188	2,147	8,114	8,715	7,574
Cauchó,	145	98	192	971	1,113	669
Total,	2,124	2,286	2,339	9,085	9,828	8,243

RUBBER EXPORTS FROM MANAOS, 1906.

To—	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York	2,943,709	1,000,231	1,193,915	5,600,396	7,138,444
Liverpool	2,860,235	460,839	732,200	2,036,160	6,118,460
Hamburg and Bremen	1,046,217	270,094	516,064	1,114,321	3,946,696
Total	6,850,161	1,731,164	2,442,179	8,750,877	19,774,381

DIRECT EXPORT FROM MANAOS TO HAMBURG.

Tons		Tons	
In 1905	57	In 1904	4.3
In 1906	104	In 1905	858
In 1907	266	In 1906	1,153

Para Rubber Exports (1906)

THE figures embrace also the exports from Manaus, and in transit from Peru and Bolivia, through Pará:

To—	Fine.	Medium.	Coarse.	Cauchó.	Total.
United States,	2,943,709	1,000,231	1,193,915	5,600,396	7,138,444
Europe,	2,860,235	460,839	732,200	2,036,160	6,118,460
Total	5,803,944	1,461,070	1,926,115	7,636,556	13,227,589

RECAPITULATION OF PARA EXPORTS.

To—	F. America.	To Europe.	Total.
In 1906,	18,192,354	18,573,431	36,765,785
In 1905,	18,260,345	18,600,347	36,860,692
In 1904,	16,500,308	14,140,608	30,640,916
In 1903,	16,333,305	10,140,347	26,473,652
In 1902,	14,850,808	14,080,312	28,931,120
In 1901,	15,350,678	14,711,121	30,061,799

Rubber Scrap Prices.

New York quotations—prices paid by consumers for scrap—100 lbs. in cent. per pound—are higher than the north 1/2.

Old Rubber Boots and Shoes,	13.00
Do, Foreign	10.00
Pneumatic Bicycle Tires,	2.00
Automobile Tires,	10.00
Solid Rubber Wagon and Carriage Tires,	8.00
White Trimmed Rubber,	10.00
Heavy Black Rubber,	4.00
Air Brake Hose,	4.00
Fire and Large Hose,	2.00
Garden Hose,	2.00
Matting,	2.00

IMPORTS FROM PARA AT NEW YORK.

775. *Importes Indicate Receipts in Pounds.*JANUARY 20.—By the steamer *Commercial* from Manaus and Para:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
Poel & Arnold	292,400	51,000	817	1,000	437,800
General Rubber Co.	171,000	31,700	13,500	1,000	338,000
A. T. Morse & Co.	150,200	32,100	8,500	—	281,000
New York Commercial Co.	30,800	27,800	51,000	6,000	145,800
Neale & Co.	45,700	4,300	47,500	—	77,500
Edmund Rocks & Co.	33,300	3,500	5,500	800	71,500
C. P. dos Santos	20,100	9,500	24,400	—	59,800
Hagemeyer & Brunn	13,000	—	6,600	—	20,500
G. Amsinck & Co.	1,800	—	5,900	—	7,700

Total 701,100 172,400 198,900 10,200 1,421,000

FEBRUARY 2.—By the steamer *Comet* from Manaus and Para:

Poel & Arnold	140,100	52,000	72,000	12,100	283,400
General Rubber Co.	93,000	13,700	97,400	20,400	194,500
A. T. Morse & Co.	104,800	18,600	28,900	3,500	155,800
New York Commercial Co.	50,600	24,500	41,100	20,000	144,000

Edmund Rocks & Co.	40,300	8,600	44,200	—	102,100
Neale & Co.	33,200	3,000	13,500	—	80,300
C. P. dos Santos	34,300	3,000	22,400	—	60,600
Hagemeyer & Brunn	14,300	—	13,800	—	30,100
G. Amsinck & Co.	12,800	3,600	1,500	—	17,900

Total 517,400 124,900 370,200 50,000 1,068,500

FEBRUARY 10.—By the steamer *Maranhense* from Manaus and Para:

New York Commercial Co.	310,800	91,200	104,700	92,100	935,100
General Rubber Co.	401,200	51,700	183,600	2,800	643,300
A. T. Morse & Co.	287,100	40,500	106,500	10,000	456,700
Poel & Arnold	63,700	31,000	144,800	12,700	254,800
Edmund Rocks & Co.	51,600	10,100	16,400	17,700	98,800
Neale & Co.	15,500	5,800	30,100	—	90,400
C. P. dos Santos	7,500	700	11,000	20,700	40,800
Hagemeyer & Brunn	20,200	—	24,500	—	51,700
G. Amsinck & Co.	2,800	300	5,500	—	8,600

Totals 1,629,400 237,000 640,000 171,900 2,280,200

[NOTE.—The *Cametense* was due at New York on February 26, with 700 tons rubber and 40 tons cauchó.]

PARA RUBBER VIA EUROPE.

JAN. 1.—By the *Recher*=Hamburg:

Poel & Arnold (Fine)	26,000
A. T. Morse & Co. (Fine)	72,000

JAN. 28.—By the *Umbria*=Liverpool:

General Rubber Co. (Coarse)	15,000
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JAN. 31.—By the *Rio*=Liverpool:

Poel & Arnold (Cauchó)	34,000
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JAN. 31.—By the *Thames*=Molend:

New York Commercial Co. (Fine)	30,000
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FEB. 1.—By the *Pennsylvania*=Hamburg:

Poel & Arnold (Fine)	15,000
George A. Alden & Co. (Fine)	8,000

FEB. 1.—By the *Lucania*=Liverpool:

General Rubber Co. (Fine)	11,000
General Rubber Co. (Coarse)	34,000

FEB. 6.—By the *Amberg*=Hamburg:

General Rubber Co. (Fine)	11,500
General Rubber Co. (Coarse)	4,500

FEB. 11.—By the *Comania*=Liverpool:

General Rubber Co. (Fine)	7,000
General Rubber Co. (Coarse)	22,500

FEB. 17.—By the *Barcelona*=Hamburg:

A. T. Morse & Co. (Fine)	15,000
Poel & Arnold (Fine)	15,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

POUNDS.

JAN. 1.—By the *Tennyson*=Bahia:

New York Commercial Co.	8,000
American Commercial Co.	5,500
A. D. Hitch & Co.	4,500

JAN. 26.—By the *Merida*=Frontier:

Harburger & Stack	3,000
E. Stricker & Co.	1,500
H. Marquardt & Co.	1,500
Isaac Rubin & Co.	500

JAN. 28.—By the *St. Paul*=London:

Poel & Arnold	17,000
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JAN. 26.—By the *El Fido*=Galveston:

Continental Mexican Rubber Co.	15,000
--------------------------------	--------

JAN. 31.—By the *Rio*=Liverpool:

Poel & Arnold	17,000
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JAN. 31.—By the *Thames*=Colon:

F. Amsinck & Co.	9,500
E. B. Strout	7,500
Hirzel, Feltman & Co.	2,500
Charles F. Griffin	2,500
Acumburo, Inc.	2,500
Eggers & Heinlein	2,500
George A. Alden & Co.	2,500
Mann & Endon	2,500
Wessels, Kulenkampff & Co.	2,500
Andreas & Co.	2,500
Andean Trading Co.	2,500

JAN. 31.—By the *El Sud*=Galveston:

Continental Mexican Rubber Co.	25,000
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JAN. 31.—By the *Keppel*=Antwerp:

Poel & Arnold	7,500
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JAN. 31.—By the *Thames*=Colon:

G. Amsinck & Co.	7,500
Mann & Endon	2,500

CENTRALS—Continued.

F. B. Strout	2,000
American Trading Co.	1,200
Wessels, Kulenkampff & Co.	600
F. A. Paul & Co.	600
Mecke & Co.	600

FEB. 1.—By the *Cienfuegos*=Tampico:

Continental-Mexican Rubber Co.	70,000
Edward Maurer	34,000
New York Commercial Co.	22,500
European account	75,000

FEB. 1.—By the *Esperanza*=Frontier:

Harburger & Stack	7,000
E. Stricker & Co.	2,000
H. Marquardt & Co.	2,500
New York Commercial Co.	1,000
Graham, Hinkley & Co.	500

FEB. 1.—By the *Panama*=Colon:

Demarest Bros. & Co.	8,000
Hirzel, Feltman & Co.	6,000
Piza, Nedehs, Co.	5,500
G. Amsinck & Co.	4,000
A. Santos & Co.	3,000
Roldau & Van Sickle	2,500
L. Johnson & Co.	1,000
W. R. Grace & Co.	1,000
Pablo Calvo Co.	500

FEB. 2.—By the *Lucania*=Liverpool:

General Rubber Co.	15,000
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FEB. 4.—By the *Washington*=Tampico:

Continental-Mexican Rubber Co.	115,000
Edward Maurer	35,000
New York Commercial Co.	30,000

FEB. 4.—By the *El Norte*=New Orleans:

A. T. Morse & Co.	10,000
G. Amsinck & Co.	4,000
A. N. Rotholz	3,000
Manhattan Rubber Mfg. Co.	2,000

FEB. 6.—By the *Canning*=Bahia:

Adolph Hirsch & Co.	18,000
A. D. Hitch & Co.	6,000
America Commerce Co.	6,000

FEB. 5.—By the *Virginia*=Colon:

Hirzel, Feltman & Co.	15,000
L. Johnson & Co.	2,500
G. Amsinck & Co.	2,000
A. Rosenthal's Sons	1,500
Jose Julia & Co.	1,000
Vander Giff, Co.	1,000
A. M. Capen's Sons	1,000

FEB. 7.—By the *Sarima*=Colon:

G. Amsinck & Co.	1,500
Isaac Braden & Bros.	1,000
Charles F. Griffin	1,000
American Trading Co.	1,000

FEB. 8.—By the *Bahia*=Liverpool:

Robinson & Stiles	53,000
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FEB. 8.—By the *Panama*=Colon:

G. Amsinck & Co.	9,000
Mann & Endon	6,000
Hirzel, Feltman & Co.	2,000
Andean Trading Co.	1,500

FEB. 9.—By the *El Rio*=New Orleans:

A. N. Rotholz	1,500
A. T. Morse & Co.	1,500

FEB. 9.—By the *Matey*=Yucatan:

H. Marquardt & Co.	2,000
Ernst Probst & Co.	2,000

CENTRALS—Continued.

Graham, Hinkley & Co.	1,500
W. H. Wadleigh	1,000
Harburger & Stack	1,000

FEB. 11.—By the *El Co*=Galveston:

Continental-Mexican Rubber Co.	22,500
--------------------------------	--------

FEB. 11.—By the *Comus*=New Orleans:

A. T. Morse & Co.	4,000
G. Amsinck & Co.	2,500
Eggers & Heinlein	1,500

FEB. 11.—By the *Matanzas*=Tampico:

Continental-Mexican Rubber Co.	45,000
Edward Maurer	34,000
New York Commercial Co.	22,000

FEB. 14.—By the *Trent*=Colon:

G. Amsinck & Co.	9,000
T. H. Rossbach & Bros.	6,500
Kunhardt & Co.	2,500
Roldau & Van Sickle	1,500
Lunha & Cortinez	1,500
D. A. De Lima & Co.	1,000
E. A. Paul & Co.	1,000
Leauz & Co.	500
A. M. Capen's Sons	500

FEB. 15.—By the *Flaudria*=Greystown:

Eggers & Heinlein	2,000
G. Amsinck & Co.	1,500
Halle & Sable	1,500

FEB. 15.—By the *Flandria*=Greystown:

Dumast Bros. Co.	4,000
Roldau & Van Sickle	3,500
G. Amsinck & Co.	2,500
E. B. Strout	2,000
Jose Julia & Co.	1,500
Aramburo Inc.	1,500
Silva Bussenus & Co.	1,500
Hirzel Feltman Co.	1,500
A. Santos & Co.	1,000
Wessels, Kulenkampff & Co.	1,000
R. G. Barthold	500

FEB. 15.—By the *Barcelona*=Hamburg:

Poel & Arnold	15,000
George A. Alden & Co.	5,500

AFRICANS

POUNDS.

JAN. 23.—By the *Bleucher*=Hamburg:

General Rubber Co.	22,500
A. T. Morse & Co.	17,000
Rubber Trading Co.	10,000

JAN. 25.—By the *Abah*=Liverpool:

George A. Alden & Co.	40,000
A. T. Morse & Co.	7,000
A. W. Brunn Co.	3,500

JAN. 25.—By the *Slaterduk*=Rotterdam:

Poel & Arnold	22,000
Rubber Trading Co.	11,000

JAN. 26.—By the *Bocora*=Hamburg:

George A. Alden & Co.	33,000
W. L. Gough & Co.	5,000
Robinson & Stiles	2,000

JAN. 26.—By the *Kron Prince*=Hamburg:

A. T. Morse & Co.	10,000
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JAN. 30.—By the *Bahia*=Liverpool:

Poel & Arnold	11,500
A. T. Morse & Co.	11,500

AMERICANS—Continued.

JAN. 1.—By the *Leopolda*=AntwerpA. T. Morse & Co. 4,000
Poel & Arnold 15,000JAN. 11.—By the *Leopolda*=LiverpoolGeneral Rubber Co. 3,000
George A. Alden & Co. 45,000
Robinson & Stiles 5,000
A. W. Bruner Co. 5,000 28,000FEB. 1.—By the *Pennsylvania*=HamburgA. T. Morse & Co. 15,000
George A. Alden & Co. 11,000
Poel & Arnold 4,500
Rubber Trading Co. 4,500
General Rubber Co. 4,500 39,500FEB. 2.—By the *Lucania*=LiverpoolPoel & Arnold 2,000
General Rubber Co. 10,000 12,000FEB. 4.—By the *New York*=BordeauxGeneral Rubber Co. 4,000
George A. Alden & Co. 10,000
A. T. Morse & Co. 7,000 21,000FEB. 8.—By the *Victoria*=LiverpoolGeorge A. Alden & Co. 50,000
General Rubber Co. 40,000
A. T. Morse & Co. 5,000 95,000FEB. 8.—By the *Amerika*=Hamburg

General Rubber Co. 60,000

FEB. 8.—By the *Baltica*=LiverpoolGeorge A. Alden & Co. 11,000
A. T. Morse & Co. 11,000
Poel & Arnold 9,500
A. W. Bruner Co. 2,500 34,000FEB. 9.—By the *Sambre*=Havre

George A. Alden & Co. 7,000

FEB. 11.—By the *Carmann*=LiverpoolGeneral Rubber Co. 115,000
A. T. Morse & Co. 5,000
George A. Alden & Co. 5,000 125,000FEB. 11.—By the *America*=AntwerpGeorge A. Alden & Co. 170,000
Poel & Arnold 35,000
Joseph Cantor 5,000
A. T. Morse & Co. 2,500 212,500FEB. 11.—By the *Majestic*=LiverpoolJoseph Cantor 9,000
George A. Alden & Co. 4,000 13,000FEB. 11.—By the *Barcelona*=HamburgGeneral Rubber Co. 15,000
Poel & Arnold 11,000
A. T. Morse & Co. 14,500
George A. Alden & Co. 5,500 45,000

EAST INDIAN.

JAN. 25.—By the *Arabie*=Liverpool

C. Van Postan & Co. 7,000

JAN. 28.—By the *St. Paul*=LondonA. T. Morse & Co. 7,000
Poel & Arnold 3,500 10,500

EAST INDIAN—Continued.

JAN. 28.—By the *Brahmar*=SingaporeJoseph Cantor 6,000
Heubler & Co. 4,000JAN. 28.—By the *Mangrove*=LondonGeorge A. Alden & Co. 27,000
George A. Alden & Co. 28,000JAN. 28.—By the *Yaddo*=SingaporeW. L. Gough & Co. 8,000
General Rubber Co. 8,000FEB. 7.—By the *Sambre*=Liverpool

A. T. Morse & Co. 2,000

FEB. 8.—By the *Maucha*=LondonGeneral Rubber Co. 14,000
George A. Alden & Co. 4,000 18,000FEB. 9.—By the *Lucania*=SingaporeGeorge A. Alden & Co. 12,000
W. L. Gough & Co. 12,000
Heubler & Co. 25,000
Wipac & Smith Co. 15,000
General Rubber Co. 10,000 74,000

GUTTA PERCHA.

JAN. 25.—By the *Kran*=SingaporeWilliam Tappanbach 3,000
Poel & Arnold 60,000
Heubler & Co. 4,000
American Trading Co. 24,000 71,000JAN. 26.—By the *Brahmar*=SingaporeJoseph Cantor 11,000
W. L. Gough & Co. 10,000
Joseph Cantor 12,000
Heubler & Co. 8,000
Poel & Arnold 2,000 43,000JAN. 30.—By the *Yaddo*=SingaporeH. Paul & Co. 21,000
D. A. Shaw & Co. 1,000
General Rubber Co. 60,000
Heubler & Co. 11,000 93,000FEB. 19.—By the *Lucania*=SingaporeGeorge A. Alden & Co. 2,000
W. L. Gough & Co. 2,000
Joseph Cantor 4,000
H. Paul & Co. 4,000
A. W. Bruner Co. 4,000
Heubler & Co. 2,000
William Tappanbach 10,000 28,000

GUTTA PERCHA.

JAN. 28.—By the *Kran*=Princess

Cecilia Hamburg 7,000

JAN. 29.—By the *Brahmar*=Singapore

Robert Soltan & Co. 25,000

JAN. 30.—By the *Yaddo*=Singapore

Robert Soltan & Co. 33,000

FEB. 15.—By the *Barcelona*=Hamburg

Robert Soltan & Co. 33,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—Continued.

Imports—By the *Leopolda*=AntwerpGeneral Rubber Co. 3,000
George A. Alden & Co. 45,000Imports—By the *Leopolda*=LiverpoolGeneral Rubber Co. 3,000
George A. Alden & Co. 45,000Imports—By the *Pennsylvania*=HamburgGeneral Rubber Co. 4,500
George A. Alden & Co. 11,000Imports—By the *Lucania*=LiverpoolGeneral Rubber Co. 10,000
George A. Alden & Co. 5,000Imports—By the *New York*=BordeauxGeneral Rubber Co. 4,000
George A. Alden & Co. 10,000Imports—By the *Victoria*=LiverpoolGeneral Rubber Co. 40,000
George A. Alden & Co. 50,000Imports—By the *Amerika*=Hamburg

General Rubber Co. 60,000

Imports—By the *Baltica*=LiverpoolGeneral Rubber Co. 11,000
George A. Alden & Co. 11,000Imports—By the *Sambre*=Havre

General Rubber Co. 7,000

Imports—By the *Carmann*=LiverpoolGeneral Rubber Co. 115,000
George A. Alden & Co. 5,000Imports—By the *America*=AntwerpGeneral Rubber Co. 170,000
George A. Alden & Co. 35,000Imports—By the *Majestic*=LiverpoolGeneral Rubber Co. 9,000
George A. Alden & Co. 4,000Imports—By the *Barcelona*=HamburgGeneral Rubber Co. 15,000
George A. Alden & Co. 11,000Imports—By the *Arabie*=Liverpool

General Rubber Co. 7,000

Imports—By the *St. Paul*=LondonGeneral Rubber Co. 7,000
George A. Alden & Co. 3,500Imports—By the *Yaddo*=SingaporeGeneral Rubber Co. 8,000
George A. Alden & Co. 12,000Imports—By the *Maucha*=LondonGeneral Rubber Co. 14,000
George A. Alden & Co. 4,000Imports—By the *Lucania*=SingaporeGeneral Rubber Co. 12,000
George A. Alden & Co. 12,000Imports—By the *Brahmar*=SingaporeGeneral Rubber Co. 6,000
George A. Alden & Co. 4,000Imports—By the *Mangrove*=LondonGeneral Rubber Co. 27,000
George A. Alden & Co. 28,000Imports—By the *Yaddo*=SingaporeGeneral Rubber Co. 8,000
George A. Alden & Co. 8,000Imports—By the *Sambre*=Liverpool

General Rubber Co. 2,000

Imports—By the *Maucha*=LondonGeneral Rubber Co. 14,000
George A. Alden & Co. 4,000Imports—By the *Lucania*=SingaporeGeneral Rubber Co. 12,000
George A. Alden & Co. 12,000Imports—By the *Brahmar*=SingaporeGeneral Rubber Co. 6,000
George A. Alden & Co. 4,000Imports—By the *Mangrove*=LondonGeneral Rubber Co. 27,000
George A. Alden & Co. 28,000Imports—By the *Yaddo*=SingaporeGeneral Rubber Co. 8,000
George A. Alden & Co. 12,000Imports—By the *Maucha*=LondonGeneral Rubber Co. 14,000
George A. Alden & Co. 4,000Imports—By the *Lucania*=SingaporeGeneral Rubber Co. 12,000
George A. Alden & Co. 12,000Imports—By the *Brahmar*=SingaporeGeneral Rubber Co. 6,000
George A. Alden & Co. 4,000Imports—By the *Mangrove*=LondonGeneral Rubber Co. 27,000
George A. Alden & Co. 28,000Imports—By the *Yaddo*=SingaporeGeneral Rubber Co. 8,000
George A. Alden & Co. 12,000

OFFICIAL STATISTICS OF CRUDE INDIA RUBBER (IN POUNDS)

UNITED STATES.				BELGIUM.*			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1906.....	7,934,553	513,547	7,421,006	December, 1906.....	1,928,847	1,685,049	243,798
January-November.....	60,272,930	3,289,915	56,983,021	January-November.....	18,836,994	14,938,323	3,898,671
Twelve months, 1906....	67,907,489	3,803,462	64,104,027	Twelve months, 1906....	20,765,841	19,024,272	1,741,569
Twelve months, 1905....	64,147,701	3,620,522	60,527,179	Twelve months, 1905....	18,673,082	14,950,610	3,722,472
Twelve months, 1904....	61,880,758	3,449,433	58,431,325	Twelve months, 1904....	17,955,293	19,361,295	1,403,998

GERMANY				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1906.....	3,335,620	962,280	2,373,340	December, 1906.....	5,488,000	3,560,112	1,927,888
January-November.....	33,837,100	11,450,340	22,386,760	January-November.....	62,504,624	33,488,224	29,016,400
Twelve months, 1906....	37,372,720	12,412,620	24,960,100	Twelve months, 1906....	67,092,624	36,688,336	30,404,288
Twelve months, 1905....	47,664,600	17,271,320	30,393,280	Twelve months, 1905....	66,464,044	37,464,112	29,000,932
Twelve months, 1904....	38,295,460	10,052,020	28,243,440	Twelve months, 1904....	55,555,584	33,415,536	22,140,048

FRANCE.*				NET EXPORTS.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
December, 1906.....	4,011,480	1,373,240	2,638,240				
January-November.....	29,629,600	18,241,960	11,387,640				
Twelve months, 1906....	30,932,440	19,615,200	11,317,240				
Twelve months, 1905....	26,783,460	16,651,360	10,132,100				
Twelve months, 1904....	20,651,620	11,526,900	9,124,720				

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old waste rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

Net Exports.



V MARCH, 1907 No. 6.

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Liverpool.

WILLIAM WRIGHT & Co. report [February 1]:

Fine Para The market throughout the month has been dull. Prices advanced a little during the first half, but subsequently declined, closing at about last month's values—5s. 2½d. for Up-river, and 5s. 1½d. for Islands. Receipts in Brazil are still delayed; doubtless they will eventually come, but the longer they are delayed the greater eagerness there will be to secure them. America has been operating freely in Manáos, at full prices, which will further tend to keep up rates. Sellers here have been extremely cautious, and although efforts have been made to depress prices, they have had practically no effect, in view of the uncertain future.

MESSRS. JOSEPH LANNY & Co., india-rubber merchants and importers, Harley Buildings, 11 Oldham Street, have presented their friends in the trade with a handsome "Diary for 1907," with useful statistics of rubber and lists of washing tables—pocket size and very convenient.

British Official Returns.

INDIA-RUBBER.				
		1904.	1905.	1906.
Imports	Pounds	55,555,584	66,404,044	67,992,624
Exports		33,415,530	37,404,112	39,988,336
Net imports		22,140,048	29,000,832	31,004,288

GUTTA-PERCHA.				
		1904.	1905.	1906.
Imports	Pounds	3,056,250	5,088,608	5,986,352
Exports		890,622	1,020,880	973,952
Net imports		2,165,634	4,067,728	5,012,400

Bordeaux.

ARRIVALS at this market in 1906 exceeded those for the preceding year by 285 tons. The major share is from French West Africa. The Sudan output remained stationary; Conakry and Gambia showed a good increase. More rubber came from Madagascar and Indo-China. Ceará (Brazil) contributed 45 tons of "manicoba" rubber, which brought good prices. Total receipts at Bordeaux for eight years:

1899.	175,580	kilos	1903.	1,113,000	kilos.
1900.	239,532	"	1904.	1,182,703	"
1901.	235,380	"	1905.	1,330,480	"
1902.	678,000	"	1906.	1,716,004	"

TO EXPLOIT PERUVIAN RUBBER.

THE Inambari Pará Rubber Estates, Limited, is the name of a company formed lately in London to acquire certain rubber properties on the river Inambari, in the district of Carabaya, southern Peru. One of the properties is that of the Carabaya Rubber and Navigation Co., incorporated under the laws of Maine (United States). The authorized capital is £350,000 [= \$1,703,275]. A public subscription was opened in London on February 6 for £200,000, designed to pay the purchase price and promotion expenses, and leave £75,000 for working capital. The vendors are Frank Squier, of New York, and Sir George Newnes, of London. The board of the new company includes Sir Martin Conway, who was concerned with the Acre concession, and Charles A. Lampard and Keith F. Arbuthnot, London men who are directors in important Eastern rubber plantations. The plan of the Inambari company is to export rubber via Mollendo, on the Pacific coast, with the aid of improved mule roads now under construction. There are involved grants of land from the government of Peru, leaseholds of other lands, and grants of still other areas, contingent upon the completion of the roads mentioned.

RUBBER PLANTING INTERESTS.

SMOKE COAGULATING MACHINE.

EXPERTS for some time have been of the opinion that coagulation by the smoke process would be most desirable in the Far East. It has remained for Mr. Gustave Van den Kerekhove, of Brussels, to become the patentee of an apparatus for this method of coagulation. The "Fumero," for this is the name he has given it, is made in such a way that the latex is coagulated precisely in the same way as it is in Brazil. Work is extremely practical with it, and it can be removed and fitted up anywhere. Uniformity of curing, which is so hard to obtain when any mechanical process is used, is made possible by the "Fumero," as the latex is simply guided over the smoke by the hand, and the entire sheet or ball of rubber is evenly treated. The addition of acid to the latex becomes unnecessary, and the creosote contained in the smoke acts as an antiseptic and prevents the rubber from oxidizing, both of these factors entering largely into the success which awaits the general use of this patent. This invention doubtless will meet a welcome in the East.

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INDIA RUBBER WORLD

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Vol. XXXVI. No. 1.

APRIL 1, 1907.

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XXVI.

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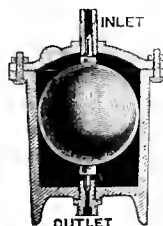
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VISITING RUBBER PLANTERS.

THE rubber plantations in the far East are constantly being visited by persons from other parts of the world who are interested, or thinking of becoming interested, in the rubber culture in some other region. It is natural that the successful production of rubber in British Asia should suggest to planters elsewhere who may have taken up rubber later, the desirability of studying the practice there. And most commendable has been the spirit manifested by planters in Ceylon and Malaya in putting at the disposal of their visitors all the information desired. The Eastern planters have reached their present stage of advancement, not by having any secrets in practice, but through the liberal interchange of experience and views—a policy which we hope to see adopted generally.

We notice that, among others, the visitors referred to have included a number interested in planting rubber in Mexico. Some of these are likely to be disappointed, since the *Hevea*, the rubber tree planted in Ceylon, is very different from the *Castilloa*, planted in Mexico, calling for different treatment throughout, and yielding rubber of a different quality. What we should rather like to see would be an exchange of visits among the planters in Mexico, with a view to each gaining in in-

sight into what has been accomplished by all the others. They are all planting the same species, and, generally, whatever has proved a success on one plantation in Mexico is liable to be found worth while on the others. Not that we would discourage the wisest possible study of rubber-planting problems, but it would seem of more practical value to know what is being done in one's own field than by planters of another species, under different conditions.

We do not know, by the way, but that the Eastern planters have yet something to learn about the treatment of *Hevea* rubber. The suggestion made at one time of sending from Ceylon to South America a commission to study rubber conditions there was met by the statement that everything necessary to be known about Para rubber could be learned by reading, and the expense of a trip was saved. It may yet prove desirable, however, for some of the rubber experts on the other side of the globe to go up the Amazon and study the "native" methods of dealing with the rubber species which they have placed under cultivation.

HIGHER PRICE LEVEL FOR COTTON.

THERE is no question to-day of more general interest to the india-rubber industry than the course of prices of raw cotton. As we have pointed out recently, the industry has been obliged of late years to accustom itself to a new and higher standard of prices for raw rubber, and no one will be found now calculating upon the probability, at least for a long time, of rubber prices sinking to the level of ten years ago—83 cents for material now quoted at about \$1.20 per pound. The industry at present is confronted with the question whether a similar permanent advance is not to be experienced in respect of cotton.

The situation is so well outlined in a circular to the trade issued by Mr. Theodore H. Price, an important member of the cotton trade in New York, that we shall take the liberty of quoting from it: "The American cotton crop for the season ending August 31, 1906, was 7,147,000 bales, and was marketed at an average of about 7½ cents per pound. In the interval since, the production has nearly doubled, and we have about completed the sale of a crop of between 13 and 14 million bales, at an average of probably 10½ cents per pound. An increase of nearly 100 per cent. in the supply and a coincident advance of 30 or 40 per cent. in the price is an economic paradox which justifies the closest scrutiny of the conditions which have made it possible."

It is no longer possible to forecast the price of cotton by comparing the prospective yield of a growing crop with last year's production, and assuming that a larger output will mean lower prices as a matter of course. Nor do the various causes which formerly influenced, temporarily, a rise in prices suffice to account for the

advance which has occurred within two years past and is still maintained. There is, for example, "speculation" in cotton, but mere speculation cannot long maintain a material at a high price level if consumption is not keeping pace with production. This whole proposition has been illustrated fully in connection with the gradual advance in rubber prices to the present standard.

Some other features of Mr. Price's circular merit attention here. He asserts that no other single product of labor is so essential to civilized humanity as cotton, and the increase in the demand for it is coextensive with the spread of civilization, industry, and wealth; no other article of commerce is so promptly and easily exchangeable for gold. During 50 years past the "units of labor" involved in cotton production have remained practically unchanged, while labor-saving machinery has reduced the cost of production of most other commodities. But of late the value of "labor units"—*i. e.*, a day's work—as expressed in terms of gold, has increased. In other words, the purchasing power of gold has become greater. In 1906 there was produced twice as much gold as in 1896, which fact must not be lost sight of in considering the advance in cotton prices in the same period.

Mr. Price predicts that in time an American cotton crop twice as large as at present will be viewed without alarm as no more than equal to the world's requirements, and already we seem to be nearing the time when 15,000,000 bales will be a necessity. And with the continued large production of gold, cotton at 20 cents a pound may yet seem reasonable.

In the above consideration no regard has been had to the production of other than American cotton. As our readers know, the culture of cotton is being encouraged by the European powers in all their colonial possessions which seem in any way adapted to it, but as we have shown recently, while progress is being made, it is slow. Meanwhile the use of cotton goods is on the increase in regions where formerly they were little known. Doubtless considerable cotton will be grown in West Africa within the coming decade, but a large production will be needed to offset the growing demand for cotton goods there. Great Britain alone exported to West Africa in 1904 cotton goods valued at £1,706,186 [= \$8,303,154], and in 1906 valued at £2,034,152 [= \$9,899,200].

We should be pleased, of course, to see the cotton situation work out more favorably for the rubber trade than the foregoing considerations indicate, but the trade will lose nothing by being prepared for a permanent high level for this commodity.

GROWING USE OF RECLAIMED RUBBER.

THE most important development in the rubber industry, since the discovery of the vulcanization process, has been in the reclaiming of rubber from scrap, or worn-out goods. Indeed, without reclaimed rubber, the industry as we know it to-day could not exist. While

the production of raw rubber has increased steadily from the beginning, the total amount available is hardly sufficient to afford material for all the rubber goods required.

Without the help of the reclaiming processes, the 130,000,000 pounds or more of rubber that enters into consumption in the world in a year would have to be thrown away after once having rendered a service, whereas now practically all rubber is capable of being used over and over again. The extent of the reclaimed rubber industry cannot be stated with accuracy, but careful estimates in the trade of the production of the 32 reclaiming plants in the United States point to the use in this country of two pounds of reclaimed stock for every pound of raw rubber. It is several years since the estimate was accepted that an equal amount of reclaimed and raw rubber was used. Since then improved reclaiming methods have come in, and wider uses found for the product.

The use of reclaimed rubber in other countries, though beginning later, has become very extensive. There is reason to believe that the collection of waste rubber in Europe is as general as here, not being confined to the 10,000 tons or more exported in a year to America. Most of the larger rubber factories abroad reclaim more or less rubber for their own use, in addition to the product of several important independent reclaiming plants.

At present prices the collection of every kind of waste rubber is worth while, and the pressure of the demand for reclaimed rubber makes it uncertain when lower prices will prevail.

TO IMPROVE CONGO CONDITIONS.

ON the eve of his departure for the Congo, to begin the work of exploiting the rubber concession granted recently to an American company, the general manager of the company is reported to have stated that, as soon as any center for their work was located, the first care would be to arrange for "the proper housing, feeding, and in general the health and comfort of the natives" they expect to employ. This statement is entitled to weight, not only from the fact that the company command practically unlimited capital, enabling them to carry out plans without regard to expense, but because their manager has had several years of experience in Central Africa and is familiar with the character of the natives, and with the local labor conditions.

In the opinion of the gentleman quoted, a great trouble with the employment of labor in Africa has been that the natives have been left too much to themselves, and, being improvident, they have never made provision for a season ahead, which doubtless renders their labor on the whole less effective than it might be otherwise. The American manager does not hope to change the nature of the natives, but, by fair treatment, to so gain their confidence as to bring their work under more systematic supervision than has prevailed hitherto.

We do not doubt that both in the Congo and the rub-

ber regions of the Amazon better methods of dealing with the rubber gatherers could be adopted, with the result not only of improving the condition of the natives, but of putting the rubber trade on a better basis. The results of the American company's efforts on the Congo will be looked for with especial interest, in view of the charges that have been made of cruelty to the rubber gatherers there.

A ROYAL PHILANTHROPIST.

THE King of the Belgians, after years of silence under widespread criticism of his conduct of Congo affairs, has lately seen fit to make public some statements in defense. This was done in the shape of an interview accorded by his Majesty to a representative of the New York news agency known as the "Publishers' Press," which has been widely published. It last appeared in a semi-official publication, *La Liberté Sur le Congo*, which indicates that the report of the interview is sanctioned by King Leopold.

To use the King's own words, "No one in Europe has been painted a monster in such blackness" as he; he has been described as "an ogre, whose chief delight is to order the torture of helpless African negroes." To which his answer is: "It would be absurd for us to ill-treat the blacks of the Free State, because no state can prosper without its population being happy and increasing." There have been, his Majesty admits, cases of "misjudgment" on the part of the state's agents, white and black, but instead of attacking him, he feels that other powers would be "more philanthropic" in giving their support to his measures "for the benefit of civilization."

What will cause most surprise in the royal interview is the statement: "I am the ruler of the Congo, but the prosperity of the country no more affects me financially than the prosperity of the United States increases the private means of President Roosevelt. I have not a penny invested in Congo industries. I have received no salary for the work I have done, as the Congo executive during the past 22 years, and in no shape or form have I ever bettered myself in money through my relationship with the Congo Free State. On the contrary, I have spent large sums of my own in developing the country, sums that amount in the aggregate to millions of dollars."

The King says further that he has sufficient money for his wants, and cannot take money out of the world. "I am not a business man," he concludes.

Whether these very definite assertions will be accepted as a complete answer to the charges made against the Congo administration time will tell. But the interview doubtless will appear to some persons incomplete in that it fails to say who has pocketed the large profits made on rubber and other products of the Congo.

NEWS OF THE BLIZZARD HEAVY SNOWFALLS in the United States cannot fail to be welcome on the Amazon. Not that any use for snow exists so near the equator, but the more snow up here, the more rubber shoes are worn, and the better the demand for the Amazon's great export staple.

THE RUBBER SITUATION AT MANAOS and its effect upon the market in London on the same date, reported by cable in a Ceylon newspaper of the following morning, is displayed as important news. It is at least interesting as showing how near together the different parts of the rubber world are being brought.

THE TERM "CRUDE RUBBER DISPLACERS," lately introduced into the trade by an enterprising British firm in their advertisements,

takes a more appropriate than true meaning. It is not a displacer, but a substitute, and, accurate, there being no other word for it. It is a "rubber substitute."

THE MAYOR OF NEW YORK, in a speech at the opening of the exposition, illustrated the value of the "rubber substitute" by saying: "We were about to use the word 'rubber' to designate the identity of gutta-percha and of the rubber of the United States court judge decided, in a case decided, that 'rubber' includes 'latex,' which is a natural product of the tree, practically made out to be gutta-percha. It may be said as well to defer further comment until all the public authorities have spoken."

THE DEFINITION OF "INDIA RUBBER, CRUDE," as Judge Hough, which admits but is free of customs duties, would apply, as we can see, to chicle gum, particularly if it should be intended for use in the manufacture of "rubber goods."

OBITUARY.

IN the death of JEAN VILBOUCHEVITCH, in Paris, on January 27, the cause of scientific agriculture, not only in France and her colonies, but generally, and in the tropics in particular, suffers a distinct loss. Monsieur Vilbouchevitch for a number of years had devoted special attention to the development of the rubber culture, both in the pages of the admirable *Journal d'Agriculture Tropicale*, which he founded in 1901, and through personal relations with many leaders in the planting interest. An important work was his translation and enlargement of Dr. Warburg's "Die Kautschukpflanzen und Ihre Kultur." Monsieur Vilbouchevitch was born June 24, 1866, at Bielostok, Russia, and was educated in his native country and at Paris. He began early the study of scientific agriculture, and became attached to the Russian ministry of agriculture. Since 1895 he had resided in Paris. It is gratifying to know that the *Journal d'Agriculture Tropicale* is to be continued.

RUBBER SMUGGLING IN BRAZIL.

THE falling off in the revenues of the state of Amazonas since 1904 is explained by Governor Nery, in his last annual message to the legislature at Manaus as being due to an organized system of smuggling, by which a great amount of rubber produced in the state escapes the payment of export duties. In May, 1905, the federal government of Brazil, having assumed control of the Acre district, installed three prefectures there, with a new fiscal system. The export duty levied on rubber being much lower than in Amazonas, in which state the Acre rubber formerly was taxed—it is asserted by Governor Nery that much rubber now produced in Amazonas is taken up the Purus and Juruá rivers into the federal district and sent to market as Acre rubber.

In the first year of the new Acre regime, according to the official figures, the rubber shipments amounted to 2,200,000 kilograms, and last year to 8,266,687 kilograms. The collection of the latter amount, Governor Nery says, would have been impossible, with the limited population of the Acre, and the figures are given as conclusive evidence of smuggling, together with the fact that the amount of rubber taxes at Manaus has been falling off.

THE will of the late Baron de Marajó, a distinguished citizen of Pará, whose death has been reported in THE INDIA RUBBER WORLD, disposes of an estate valued at 600,000 milreis (= \$206,826.25), among seven heirs.

THE INSULATION FIELD.

PROCESS OF FIREPROOFING CONDUCTORS.

A PROCESS of making fireproof conductors, for which a patent has been issued to A. M. Lougee, consists in coating the conductor wire with a cover of approximately pure rubber, to which are applied several vulcanizable coatings containing insulating and fireproofing ingredients with increasing proportions of the latter in successive coatings. A closely fitting woven wire jacket is next applied, and outside of this a highly heated, thin, vulcanizable, fireproof and electrolysis proof insulating compound. The latter is applied a number of times, until the heated compound has permeated the meshes of the wire jacket and become thoroughly incorporated therewith about the individual strands and on both sides of the jacket. Finally a heavy coating of vulcanizable fireproofing compound is added, and the whole vulcanized together.

FIREPROOF INSULATED MAGNET WIRE.

THE problem of heat resisting magnet wire has been the study of years. Asbestos has been the basis for the insulation of wire of this class mentioned, and inventors long have been trying various methods of applying asbestos paper or twine to wire. The paper or twine is held upon the wire in most cases either with cotton thread or a heavy coating of organic paint. But while admirable otherwise, cotton is incapable of resisting continuously a temperature much above the boiling point of water.

The Heavy fireproof insulated magnet wire is the latest form produced. It differs from previous attempts inasmuch as the asbestos is used in the fibrous condition, without being worked into twine or paper. The fibers of asbestos are applied in a filmy condition to the conductor, and then saturated with an inorganic cement which forms a homogeneous, durable, flexible, uniform covering, in the nature of a paint which can be built up from a thickness equivalent to a single wrap of cotton to any desired diameter. The result of this structure is to produce an insulation that cannot be destroyed by heat, no matter of what degree.

Cotton wound coils may burn out in different ways, but what most commonly happens is the gradual carbonizing of the cotton, rendering it friable and conducting. With fireproof insulation the gradual roasting is obviated, and in consequence the coils have an almost indefinite life instead of from six months to a year, which seems to be the average life of a street railway field coil. This gradual roasting is the fate of any insulation that contains a large percentage of organic matter, whether it also contains asbestos or not.

TWO NEW INSULATING COMPOUNDS.

A NEW insulating compound for which a patent has been granted to Samuel G. Penney is referred to as having the advantage of being durable, fireproof, capable of being readily prepared and easily applied, inexpensive and efficient as an insulator. It is stated that it will resist concussion and vibration imparted to the metal to which it is applied and may be as conveniently and effectively used in repairs as in original application. The compound consists of fibrous asbestos, comminuted mica, a double silicate of soda, and a solution of soap, and is especially designed for insulating metallic surfaces by direct application to the surface of the metal.

The silicate is created a double silicate by the addition of about 15 to 20 per cent of a strong solution of lime, thereby making the silicate impervious to water or any chemical change. It is also treated at the same time and in the same manner to a 15 or 20 per cent solution of soap shavings dissolved in hot water, which chemically changes its stiff character into pliability. The metallic surface is first coated with the silicate thus prepared, over which is then given a coating of the asbestos, which is then allowed to dry, after which a coating of the prepared silicate is again given, followed by a coating of comminuted mica. After this has dried as many additional coatings of the mica and asbestos may be

given it as may be desired, dependent upon the insulating effect and insulating property needed. An outside or finishing covering or coating of paint or liquid tar paint neutralized with a 10 per cent lime solution, may then be given.

Another patent issued to Mr. Penney relates to an insulating compound that may be applied either as a paint, varnish or paste to bond paper, cotton cloth, metallic surfaces or wherever a coating of insulated compound is required, and may be used either as an air drying varnish or it may be baked on the material to be insulated in a suitable oven. As a varnish or paint the compound consists of maltha, 20 per cent; byerite, 30 per cent; benzin, 12 per cent; carbon tetrachlorid, 38 per cent. In compounding these ingredients the maltha and byerite, together with a little colophony to act as a flux, are placed in a receptacle and subjected to heat until fused, and then while still hot the benzin and carbon tetrachlorid are added. The compound is then allowed to cool and is drawn off. A convenient form of maltha is ordinary asphalt.

ELECTRICAL TRADE NOTES.

NEW YORK has now a well equipped laboratory for the special testing of india-rubber and gutta-percha covered wires, both for conductivity, insulation resistance, and tensile strength. In deed, when it comes down to the latter quality, the work is not confined to insulated wire, but broadens out into the general line of mechanical rubber goods. The headquarters of this insulation institution is the Electrical Testing Laboratory, at Eightieth street and East End avenue, New York.

Linen tape for all the varied uses of the electrician is being put on the market by M. W. Duntun & Co., of Providence, Rhode Island.

As showing the excellence of Okonite rubber insulation it is interesting to know that the plain insulation, without any protective covering whatever, is soaked three days in water before being tested.

In answer to an inquiry, the Bishop Gutta-Percha Co. (New York) are not only remarkably well equipped for all kinds of gutta-percha insulation, but they make a very high grade rubber insulation as well.

Johnson & Phillips, Limited, of the Victoria Works, Charlton, Kent, England, are out with a signed invitation, which bids anyone interested to come to their great cable works and see the whole process of insulated cable making from start to finish.

The Dickinson Manufacturing Co., formerly the Dickinson Hard Rubber Co. (Springfield, Massachusetts), are very largely increasing their output of composition devices for an innumerable variety of insulating purposes.

The National Wire Corporation (New Haven, Connecticut) has been placed in the hands of receivers. This was on the request of the holding company, the National Steel and Wire Co., a Maine corporation. The temporary receivers appointed were Henry L. Hotchkiss, president of The L. Candee & Co. (rubber manufacturers), and Homer Wise, of New York. The permanent receivers, appointed January 4, were H. Stuart Hotchkiss and E. B. Farnsworth, both of New Haven, under bonds of \$150,000 each. The liabilities are reported at \$300,000.

The installation of the new Summer lane station, in connection with the electricity supply of Birmingham, England, lately completed, is a very notable piece of work. The cable work was carried out by Callender's Cable and Construction Co., Limited. The direct current cables are insulated with vulcanized india-rubber and fireproofed with asbestos braid. The alternating current cables are of the three core, paper insulated, lead covered, armored type, and have a subway to themselves.

The St. Helens Cable and Rubber Co., Limited (Warrington, England) advertise that they have made very favorable contracts for raw rubber for the season of 1907 and are going to give the benefit of it to their tire customers.

A Journey Through Guayule Land—II.

By the Editor of "The India Rubber World."

THE TRIP IN DETAIL.

WHEN one has a bad cold and it is raw and snowy in New York, the prospect of a visit to the Southland is most agreeable. Those were the conditions when, bundled in winter clothing, I boarded the train and made my start. The next morning, at breakfast somewhere in Ohio, we were two hours late, with the outlook dreary, for the fields were still snow covered, the sky cloudy, and the air full of a chilly fog. We dined in Indiana, and although we lost the snow there, the clouds, the fog, and the leafless trees, together with the flat muddy stretches of country, did not cause the joy of spring to course through our veins. We reached St. Louis three hours late, but through the

heard guayule mentioned by a man near by and, therefore, broke away. I am sorry now, for if my memory serves me right \$100 worth of that stock would be worth within two years \$593,247.13.

Talk about your luck!

The guayule mention came from another American who lived across the border and who asserted with all confidence that the white sage of Colorado, known as the "winter cattle feed," was one and the same with the plant from which the rubber was obtained. He said that he had extracted rubber from it himself, and gave me addresses of Colorado men who could substantiate his story.

When the new engine at last arrived we entered the smoker and continued the conversation in the presence of a very hilarious bunch of Shriners on a pilgrimage to Mexico City. Then came up the question of the discovery of the rubber in the plant. The solemn man, he of the stah wounds and bullet holes, believed that the shrub chewing Indians first made it known. The Shriners, on the other hand, held that the rubber eating goat should have the honor. Indeed, before we parted they promised to have a hard rubber tablet set into the wall of a shrine in Colorado adorned with the following:

THE RUBBER GOAT.

Patter, patter, little feet,
As you search for food to eat,
Cactus, sage brush, cast off shirt,
Nothing could your stomach hurt,
Till you browsed on gray guayule,
Which it killed you, pronto, truly
And it was your prompt post mortem
That, and nothing else, that taught 'em
How to take this desert shrub
And turn it into a good rubber,
Thus your masters' fortune win,
Just because you "budded in."

MEXICO REACHED.

THESE and other pleasantries helped time to fly until we reached Laredo at 10 P. M., crossed the Rio Grande at 11, and, after a brief examination of luggage and an exchange of our money into Mexican on a basis of 2 for 1, we felt that really we were in the rubber land. To be sure, it was cold and everyone was coughing,



MOUNTED MEN PROSPECTING FOR GUAYULE

assistance of the "ushers," called porters elsewhere, caught our train and felt at last as if the start was made.

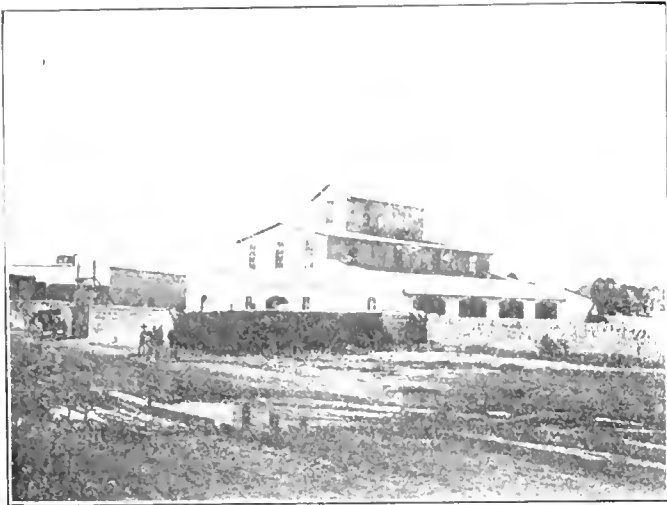
The next morning, as we cautiously ran through Arkansas, I made the acquaintance of Mr. W. T. Selleck, a brother of H. D. Selleck, of New York, well known as the holder of important rubber concessions in South America. Although a Mexican mining man, he knew much of guayule, and we put in a pleasant forenoon discussing it. Reaching San Antonio, Texas, it was quite springlike and I began to consider summer clothing. Before I reached the point of changing, however, a "norther" came up and I was glad to remain clad as I was. Did I mention that we were seven hours late reaching San Antonio? That, together with the bad buffet service, was the first real suggestion that we were nearing the land of manana. Down through the flat plains of Texas, by dun colored adobes, through vast stretches where only the mesquite grows, we crawled toward Laredo. At Pearsall the engine gave out and we waited four hours for another. Sitting on the freight platform, with the hot sun baking my knees and the chill of the norther in the back of my neck, I was approached by a passenger of solemn and respectable mien who saved me from death, through weariness, although he didn't know it. He had a mine, with stock to sell, which he broached later. But as a preliminary, and to prove his absolute honesty in word and deed, he told of adventures with Indians and bad men, of peril from fire and flood, of mineral discoveries and development, until I knew that he was a genuine Buffalo Bill and John Hays Hammond combined. He was, I think, about to show me his collection of knife wounds, bullet holes, and samples of ore, when I



REST FOR LUNCH IN GUAYULE LAND

but we were in the summerland for all of that the railroad guide books said so.

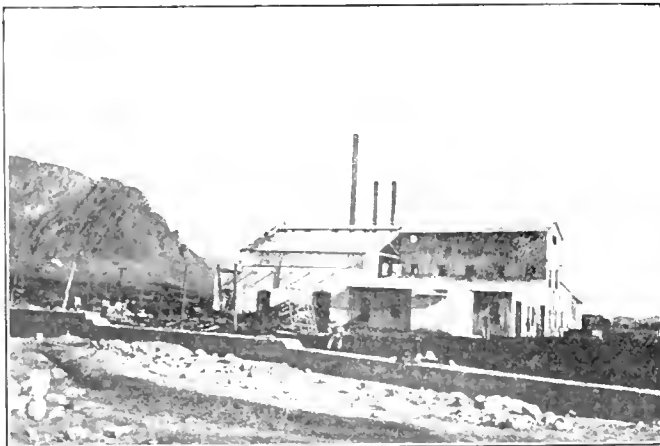
On the morning of Monday, April 1, 1907, I drove to the center of the city landed me at the Windsor Hotel. This



FIRST GUAYULE FACTORY OF L'ANGLO-MEXICANA (1898) AT SAN LUIS POTOSÍ

is the best or the worst in the city, and the others are equally so. Still I had a funny little sheet iron stove the size of a hatbox in my room, and managed to be comfortable. Indeed, as I looked out of the casement and saw the tourists shivering in great coats and furs and the natives muffled to the neck in blankets, I felt pretty well fixed.

Later, when the clouds rolled away and the lovely situation of the city in a level valley surrounded by hills and lofty mountains unfolded itself, all discomforts were forgotten. There was the Cerro de la Silla, for example, towering more than 4,000 feet



PIONEER FACTORY AT JIMULCO. (L'ANGLO-MEXICANA, 1902.)

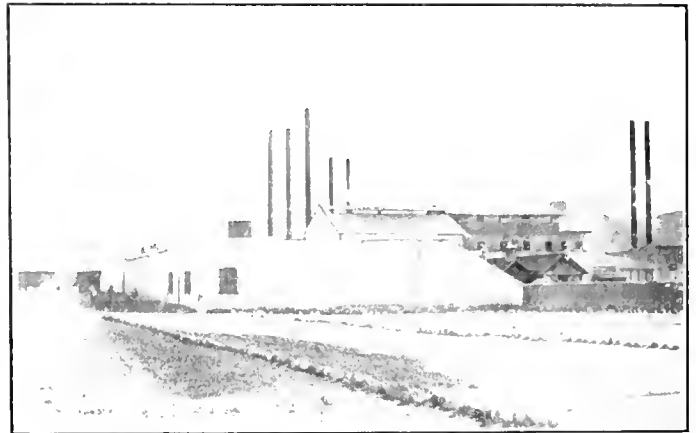
above the plain, a perfect Spanish saddle in distinct outline against the sky. Then, too, the Cerro de las Mitras, nearly as high, shows to those who can see it the miter of a bishop. Three miles from the city proper are the Topo Chico hot springs, with their Aztec legends of wonderful cures. Besides, there are faint reminders of the American occupation during the Mexican war, and more pronounced evidence of the present occupation in the shape of great smelters and factories, and the ease with which the English even of the American tourist is understood.

I was fortunate in having a letter to Ernesto Madero, who resides in Monterey, and who is of the Madero family whose

guayule holdings both in vast ranches on which the shrubs grow and in factories for its extraction are very large. A cultured gentleman, educated in the United States, he spoke English perfectly, and arranged for me to visit their factories and ranches with the utmost willingness and courtesy.

GUAYULE FACTORIES AT SALTILLO.

The nearest Madero factory was at Parras, on the Coahuila al Pacifico, and directly on the way is the city of Saltillo, where are situated two of the factories of the Compania Explotadora de Caucho Mexicana and one of the Continental Rubber Co. So I left at 2.20 to be sure and catch the 3 o'clock train, which leaves at 3.20, and which actually got away at 5.30. We arrived at Saltillo at 9.15 and went to the Coahuila Hotel, a really fine modern structure with elevators, electric lights, baths, and so on. The elevator, to be sure, was used as a storeroom for rubbish, the bath was without water, and part of the time I used a candle for



PRESENT FACTORY OF L'ANGLO-MEXICANA AT JIMULCO.

light, but I had lost the finicky attitude that New York breeds and restfully accepted these little defects as a matter of course.

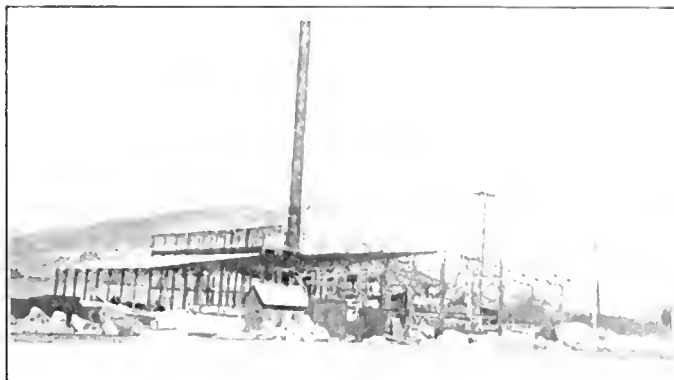
The altitude at Saltillo (pronounced, by the way, Sal-tee-yo) is close to 6,000 feet. For the first time in my life I noticed its effect in my breathing, and that only when going to sleep. The second night, however, the feeling disappeared and I had no further trace of it.

The city, quaint, ancient, once the center of the beautifully colored zerape industry, is the capital of the state of Coahuila, which once embraced the whole of Texas. There isn't much of interest except the beautiful carving on the stone front of the cathedral, and the aqueduct that makes life possible by bringing water from the far distant hills. In the morning I visited the American consul, Mr. Victor L. Dahaine, who by letter had already given me information of value. After a chat and a look at his guayule records I told the coachman (so called in courtesy) to drive to



PILES OF GUAYULE SHRUB AT JIMULCO.

the *fabrica de cautchu*. Through crowded streets, the driver ringing his big bell, cracking the whip, and lugging at his so-called horses, we rattled and bumped to the Anglo-Mexicana office, which was closed. Then I, by sign language chiefly, met



L'ANGLO-MEXICANA FACTORY AT SALTILLO, EL NUEVO LEON.

ated that the factory would do. When once his *Astec* intellect grasped my meaning he grinned delightedly, drove across a dusty expanse that was part road and part ten-acre lot, waited ten minutes for an engine that had decreed to die on a crossing, then across a hard mud plateau over which any one of a dozen wagon trails was equally good, down a steep bank and through a partly dry river bed, up a steep bank and we were in front of the fin-



OFFICE BUILDING OF L'ANGLO-MEXICANA, AT SALTILLO.

new office building of the Anglo-Mexicana. By the way, I forgot to say that a local dentist on the way out stopped me and said that if I was buying guayule shrub he could put me onto 2,000 tons. I offered him \$10 (gold) a ton delivered in New York, but I didn't get it. Indeed, the dentist seemed annoyed over something and made remarks derogatory to my intelligence, and suggested a desire to remove my "block" by knocking it off.

The factories of the Anglo-Mexicana showed up as one finished and running full blast and another about two-thirds finished. Very soon I met Mr. W. F. Rutherford, the mechanical engineer, and Mr. H. G. Gunther, the superintendent. Dr. Adolpho Marx,

one of the owners, and Mr. George H. Gunther, in charge of the factories and of another at Jimenez, owned by the same company, was absent in the City of Mexico, so I makes his house so I did not have the pleasure of meeting him.

The factory in operation is a power plant consisting of four boilers and a 350-horse-power engine, generating electric power to the various machines in the factories, and that the process was purely a mechanical one. They were running night and day, using 100 men for both shifts. All of these were Mexicans, the two Americans named above being the only aliens about the place. The new factory will be practically a duplicate of the old one in size and capacity, and will be running in the course of a month. In addition to the new factory, the company has just completed four adobe store houses, 70x40 feet and 25 feet in height, for the storage of the shrub, and also 10 or 20 adobe houses for the workmen and their families. The situation of the plant is ideal, as there is plenty of water, and the breeze from the breezies where the fiber is deposited after extraction is excel-



FACTORY OF OTON KATTERFELDT, AT GOMEZ PALACIO.

lent. Of the two young Americans who run this, Gunther was formerly employed in large flouring mills near Minneapolis, and later in guayule extraction at Gomez Palacio, while Rutherford was with Westinghouse, Church, Kerr & Co.

As the sun came out in the afternoon, in spite of the local prophecy, I drove again to the factory and succeeded in getting some excellent views of the works. Early the next morning, after compromising with the hotel keeper for 75 cents on the dollar, with the help of a traveling man who spoke fluent Spanish, I started for Parras.

The ticket agent had no change at all, so I boarded the train anyhow, getting a seat in the first class half of the combination



INTERIOR OF THE OTON KATTERFELDT FACTORY, GOMEZ PALACIO.

car. By 6 o'clock the sun shone gloriously, and I could well believe all the nice things that had been told me about the climate. The railroad ran through a dry valley plateau, from 2 to 10 miles wide, fringed with lofty and picturesque mountain ranges. Here and there were lonely haciendas, about which were huddle-

native huts. Occasionally we came near to cart roads along which passed creaking carts, flocks of goats, or *sombrero* clad horsemen.

PARRAS AND THE MADEROS.

At 2 o'clock we steamed into the station at Parras. Here, to my surprise and joy, we met Mr. Elliott W. Knight, a Massachusetts "Tech" man, formerly employed in a well-known rubber laboratory in the States. He informed me that he was the superintendent at the Madero factory, or more exactly, at the factory of the *Compania Explotadora Coahuilense, S. A. (fabricantes de hule en grande escala)*. Mr. Salvado Madero also welcomed me, and in spite of my protests—weak ones—that I intended to go to

world. They are indescribably funny, marvelously pathetic, and in some instances show real talent. But no money could buy the least of them.

Leaving the chapel we went again to the factory, where I met the founder of the Madero family, Don Evaristo. He is nearly 80 years old, a fine large hawk-eyed Spanish gentleman. Starting with nothing he became one of the largest landowners in Mexico, and his three sons and one nephew, who attend to the active business now that the senior has retired, are interested in banks, mining, railroads, and largely in guayule. As showing the troublous times through which Don Evaristo came, it is well to cite the fact that for years he kept 800 men under arms and to-day the guns are stacked in a warehouse of his in Parras. His home is here and he not only owns about half of the city, but nearly all the land for leagues around.

The journey to Torreon was through much the same sort of country that I have only just described, but a bit wilder in parts. Game seemed very plentiful. From the rear of the train I saw blue quail, rabbits, and deer, and in the irrigation canals and ponds thousands of ducks.

Our stop at Viesca was very brief. Here are two of the factories of the Mexican Crude Rubber Co. They lie on the out-

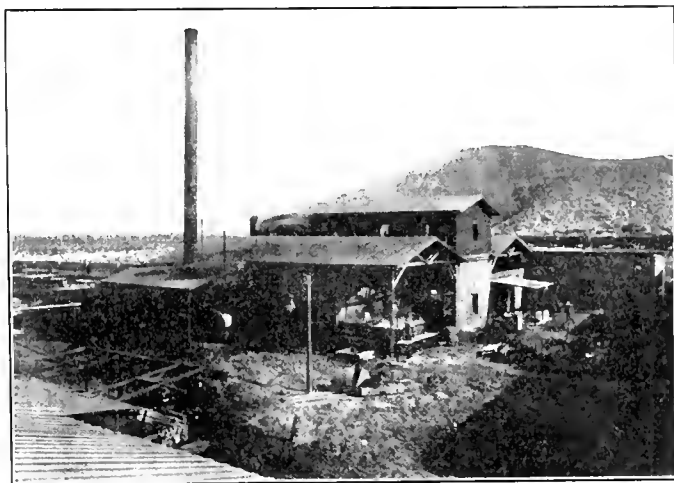


GUAYULE FACTORY OF CHARLES J. MCGREGOR, AT TORREON.

the Hotel Walter, secured a coach and installed me in the *Casa de Knight*, which, being translated, means the exceedingly comfortable home of the Knights. After being welcomed by Mrs. Knight (a Boston girl), and a brief introduction to the family pets, consisting of a dog, a tiny pig, and a deer, we drove to the factory, talking guayule all of the way.

We spent several hours going over the factory and discussing rubber in general and guayule in particular, and then returned to the Knight homestead. There I enjoyed the best dinner that I ever had in Mexico and it ended with real old fashioned strawberry shortcake, crisp, sweet, delicious.

The next morning we drove to the outskirts to the foot of a steep hill that rose out of the plain, where on top of the hill was a huge rock, and in turn on the top of that the tiny chapel of Santo Madero. A very steep pathway led up the hill and up



FACTORY OF LA INTERNACIONAL MEXICANA COMPAGNIE GUAYULERA, S. A., AT TORREON.

skirts of the pretty little town and one of them is, or was, a smelter owned by the Coahuila Mining and Smelting Co. Both plants are exceedingly well situated as far as abundant water and railroad facilities go. The plants are running night and day and turning out a good quality of rubber under processes said to be original with the company. The same company operates a third plant at Cedral.

THE INDUSTRY AT TORREON.

TORREON, the newest of all the Mexican cities, has a history dating back only about 20 years. It is built wholly on the mineral development of that part of the country. It contains perhaps 18,000 people, is 2,000 feet lower than Saltillo or Parras, and is hot and indescribably dusty. I stopped at the Salvador and as it was evening when I arrived put in three hours hunting for a good place to eat, incidentally sizing up the Mexican and American inhabitants. With its saloons, noise, dust, blaring music, gambling joints, and buildings in the course of construction, it is not unlike the typical American mining town during a "boom." It surely is a busy place, and fascinating with all its crudeness.

They told me in New York that the Continental factory was close to the end of the street car line, so I did not take a carriage. The car stopped at a smelter and far in the distance beyond was the plant I sought. So I waded through dust often ankle deep until finally I stood on the portico that belongs to the elegant

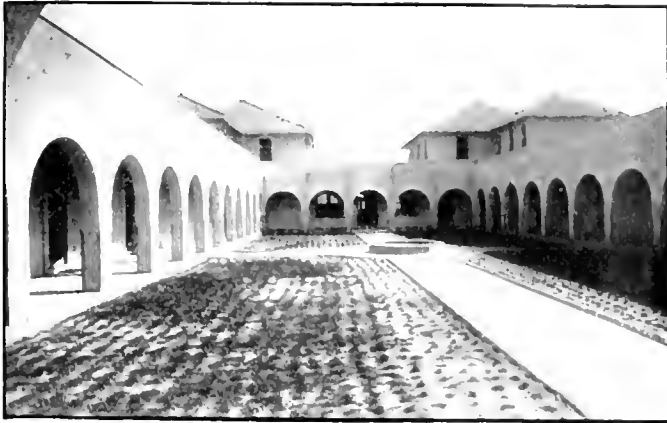


PARRAS FACTORY OF THE CIA. EXPLOTADORA COAHUILENSE, S. A.

stairs cut through the rock to a little courtyard that fronts the chapel. When a native has sickness in his family he lights a candle and starts up the hill on his knees. If the candle burns all the way up the sick one will recover. It is then up to him to paint a picture with his own hands and hang it in the chapel. In the past many have won the ascent successfully, painted and hung their pictures, and the result is the most unique art gallery in the

administration building of the company. A handsome young Mexican met me there with a polite bow and a question in Spanish. The story of my visit there is best told by the fine illustrations that I am able to give of the factory.

I don't think I mentioned it before, but in the past guayule, because of its rubber, resin, and oil content, was highly prized as a fuel. Indeed, very much smelting was done with it. A friend



COURT IN THE ADMINISTRATION BUILDING OF THE CONTINENTAL MEXICAN FACTORY.

figured that for years the Guggenheims in their great Mexican smelters had unknowingly burned up \$500,000 worth of rubber, or about 10,000 tons of shrub.

After lunch at the officers' mess at the Continental, the *cocho grande* took me to the neat guayule factory of Mr. Charles J. McGregor, situated not far from the works already described. The owner is a young American who was formerly employed by the Standard Oil Co. in Chicago as candle manufacturer. Becoming ambitious he came to Mexico and started up a candle factory of his own at Aguas Calientes. He couldn't compete with the product already on the market, and ere long his light went out. Then he came to Torreon and embarked in the dairy business. While following this calling he met a young Californian, Mr. A. S. Valdespino, who interested him in guayule, to which he now devotes all of his time. His plant covers about 1½ acres, the product going to Hamburg and Antwerp.

The Delafond Rubber Co., another small factory in the outskirts, I did not visit, as it has not been operated for some months.

A brown-skinned coachman with much whip cracking took me next to the factory of La Internacional Mexicana Compagnie Guayulera, S. A. Mr. A. S. Valdespino, the head of the concern, was absent, for which I was sorry, as he is credited with having

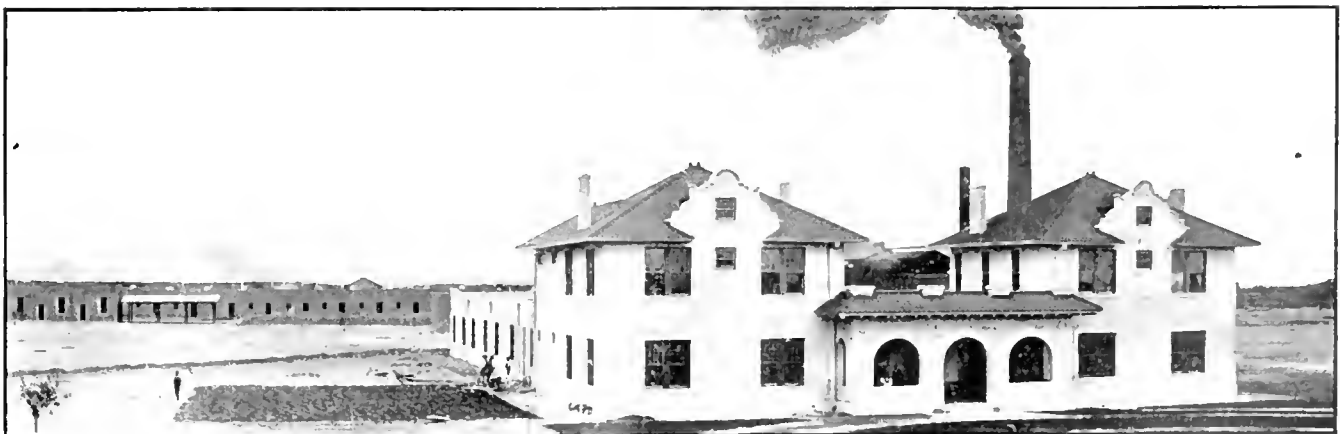
had quite a finger in the guayule pie. For example, he was connected with the factory at Veracruz. To be interested in the Saltillo plant, he started McGregor, and has an interest in the newly projected Torres factory at Gomez Palacio. (Torres was formerly with Pena and is in the Banco Muerano at Gomez Palacio). Mr. R. C. Bean, a six-foot Yankee, moreover, did the honors, showed me the factory, and answered many of my questions with the greatest frankness. He was, by the by, very pronounced in his preference for the European market as against the American. He said he got better prices, and there were fewer kicks and claims, and the settlement was always in the form of a draft against bill of lading. He estimated his product at a ton a day.

GOMEZ PALACIO VISITED.

THERE are at present two factories at Gomez Palacio, with a third one in prospect. To get there from Torreon stand on the sidewalk opposite Sternau's, the only good place to eat in the city, and when an electric car comes along board it and say, "*Por Gomez Palacio?*" The conductor then says, "*No, señor; especial,*" and you get off and wait another half hour. Then when a car for the elect, with two trailers for peons comes, take a seat, and in due time you will be landed in a dreary plain in a muddle of adobes, saloons, and freight cars. Far in the distance, you spy a factory. "*Fabrica guayule?*" you ask of a passing *mozo*. "*Si,*" he replies, which means "yes," and has no reference to the patronymic Silas or to the gusty aspiration with which you view the dusty tramp in prospect. Nearing the factory the roar of the pebble mills and the unmistakable smell of the crushed shrub prove the correctness of the diagnosis.

This is the National Rubber Co. (Fabrica de Hule Nacional), and is presided over by Mr. William Magenau, the general manager. It is financed by capitalists in San Antonio, Texas, and, by the way, they claim to have shipped considerable Texas shrub to this factory and to have got a good percentage of rubber from it. Mr. Magenau, who was a mining engineer, early took an interest in guayule, and is running his factory under the Bergner patents. His product is sold direct, partly in the United States and partly in Europe.

While going over the factory he told me of an amusing instance of Mexican official interference. It seems that a guayule factory, like a rubber re-tapping plant, is too odorous a neighbor to be gracefully tolerated. The smell to which some object comes chiefly from the great vats in the yard where the *bagasse*—the waste fiber—is pumped to dry out and be used for fuel. The city fathers of Gomez Palacio ordered Mr. Magenau to put lime in the mess. Luckily he tried the experiment on a small scale first, and let loose a smell that would make sulphurated hydrogen seem like rose attar in comparison. So they didn't insist.



ADMINISTRATION BUILDING OF THE CONTINENTAL-MEXICAN RUBBER CO. AT TORREON



HUNTING THE GUAYULE PLANT.

Another manufacturer, however, in his zeal to avoid civic conflict, did it on a large scale, and drove half the native population to the hills as a result. Speaking of this refuse, it makes a good fuel even wet, and all of the manufacturers burn it to an extent. Indeed, if it did not decrease the cost of fuel, a large plant would be forced to burn it to get it out of the way.

One of the pioneers in this new rubber industry is Oton Katterfeldt, whose factory lies on the other side of the town. I will not weary the reader with the description of the circuitous route over which my ten-year-old driver took me in the attempt to

reach the "*Otton fabrica*." Suffice it to say we went miles out of the way, and I knew, but couldn't prove it. Mr. Katterfeldt, a young erect German, for a number of years explored for the shrub and shipped it in large quantities to Germany, where it was treated and used long before the rest of the world was aware of its value. When at last Mexico awoke and put an export duty of \$15 per ton upon it he built his present plant, which for some time he operated as a heat and chemical extraction factory. The cost of the process, however, has decided him to turn it into a purely mechanical factory. The plant is small to be sure, but it is the neatest and best built of them all, with the exception of the Continental. All of his product goes to Germany.

This is briefly the story of my trip. Of course, I saw the shrub growing, always on the calcareous foothills, and not in the open plain. I also saw the near relative of the guayule, the *marula*, said by some to contain a small percentage of rubber, and by others none. If it does contain enough to pay to work I know where there are some million or more tons of it—and so do all the rest, for that matter. Then I hastened home—too quickly I fear to properly express my thanks to all of the guayule manufacturers who received me so cordially and made my task of getting facts so light.

ROCKEFELLER NOT IN RUBBER

A LONDON despatch to the *New York Sun* says: "The Rev. Charles E. Aked, of Liverpool, who has under consideration a call to the pastorate of the Fifth Avenue Baptist Church, New York, said to-day that when he was in New York recently Mr. Rockefeller had assured him that neither he nor any member of his family had as much as a penny piece in the recent concession of Congo Free State territory made to an American rubber syndicate." The pertinence of this report lies in the fact that Dr. Aked in coming to America will be Mr. John D. Rockefeller's pastor.

THE entire product of guayule rubber of the Mexican Crude Rubber Co. (Detroit, Michigan) will be marketed by the New York Commercial Co. This company was organized last summer by a group of Detroit capitalists, with \$300,000 capital, and is producing the "Viesca Standard" brand of guayule. The general manager is Walter E. Parker, who sustains the same relation to the Coahuila Mining and Smelting Co., Limited, of Viesca,



PILES OF Baled GUAYULE RUBBER AT A MEXICAN FACTORY.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

A SERIOUS fire occurred on February 13 at the rubber works of Messrs. Charles Macintosh & Co., Limited, at Manchester. The outbreak occurred at a few minutes past 7 o'clock in the evening, in the ball department, just when the work girls were leaving for the day, and before the flames were got under subjection the two top stories of the principal mill were burned out and the roof had fallen in. A good deal of stock was destroyed, but the loss in this way was not so serious as it would have been a month later, the busy season having only just commenced. According to some newspaper reports I have seen that the cause of the fire was the ignition of naphtha vapors. This is only true in a sense, it being a small tin of naphtha on one of the work tables which got on fire, owing, I understand, to a defective gas jet. Nothing in the nature of an explosion occurred, such as might have resulted from an excess of naphtha vapors in the atmosphere of the room. A good deal of damage was done to the water-use by water, the clerks having to be found temporary habitats elsewhere. I am informed by a member of the firm that the 150 work people affected by the fire have not been thrown out of employment, but have been put into other departments pending reconstruction.

In a paper read on February 4, before the London section of the Society of Chemical Industry, Dr. P. Schidrowitz and F. Kaye gave detailed analyses of the treads and body rubbers of seven makes of British and foreign pneumatic motor tires. They prefaced their paper with the remark that, considering the importance the industry has now attained, it is remarkable that so little has been published with regard to the chemical composition of the tires. Those who know the rubber trade probably do not see anything remarkable in the fact that the individual makers have pursued their own investigations without stopping to read papers to enlighten their opponents. Nor have the manufacturers let the public into the secrets of their mixings, all that is usually said on this point being found in the categorical statement that the very best rubber is used. In the analyses given in the paper just referred to it is shown that the mineral matters in the tread vary from 16.4 to 50.8 per cent, and in the body from 2.12 to 6.8 per cent. The mineral matter found was only roughly specified, but from some of the remarks concerning it one would gather that the authors' knowledge of the rubber manufacture is not on a par with their knowledge of rubber analysis. I much doubt the general use of china clay in rubber work, and it is certainly surprising to be told that the iron in tire rubber is present either as ferric oxide or metallic filings. The authors do not concur in the statement sometimes made that the mineral matter is merely an adulterant, though they think that in some cases the quantity of mineral used may be excessive. The paper concludes with the opinion that in cases where tires fail in use a chemical examination of the rubber may be distinctly useful. This is a point where there is room for divergence of opinion. Analysis might show that the quality of the rubber in a tire was decidedly low, but as so much depends on the details of construction it is hardly safe to examine and report on the rubber apart from the canvas. Internal friction is known to have a good deal to do with the wear and tear of tires; indeed, a well known manufacturer expressed his opinion to me recently that quite 50 per cent. of the wear and tear of a tire lies in the details of its construction, quite apart from the intrinsic quality of the rubber. A tire with a cheap rubber mixing might, he said, prove much

superior in practice to one made of the best rubber, and the general construction of the tire may be superior to that of the latter. Granting the truth of these statements, it is clear that analysts must use due caution in pronouncing on the quality of motor tires from the results of the analyses of the rubber portion.

Little that was novel in the way of tires was shown at this show, held at the St. James Hall, Manchester, February 22-

MANCHESTER MOTOR SHOW.

March 2. Although the North British Rubber Co. were absent, the Dunlop Co., Charles Macintosh & Co., Dooley & Co. & Sons, and D. K. Swain Tyre Co., and the S. G. & Co. Ltd. made attractive displays of their tires. At the stand of Mr. G. W. L. Week, motor cars were shown, Barley's patent "Open Door" spare wheel and tire carrier, an arrangement which does away with the inconveniences attending the carrying of a spare wheel. As usually carried on a motor car, the spare wheel or tire is held by clips to the side of the car, and projects a mass of spare parts of the car. In the patent carrier a ring is hinged to a pillar or bracket fixed on the floorboard, or to the frame of the car. It is fitted with a latch so that it can be instantly opened like an ordinary door. A novelty which attracted a good deal of attention was the Garner patent pneumatic tread as fitted to the Macintosh motor tire. This is on an entirely new principle, the steel studded leather tread being fastened on to an overhanging tread which is part and parcel of the tire canvas. The overhanging lips, consisting of five layers of canvas are strong enough to carry two renewals of the leather tread. Elastol, the "ideal substitute for air in inner tubes," was being effectively advertised at the show, and was being a good deal discussed. Although it does not seem to be proved whether the resiliency is or is not affected there is no doubt that with claster in the tube puncture troubles need not be apprehended.

RALPH FRANKENBERG. The tragic end of Mr. Ralph Frankenberg in the wreck of the steamer *Berlin* at Hook of Holland deprives the Greengate rubber works of one of its prominent and capable managers. Both by his work people and those with whom he came into business contact the news of his decease has been received with sincere regrets. With his younger brother, Sydney, Ralph Frankenberg was admitted, in November, 1903, to the management of the business founded by their father in 1866, and the corporate style became L. Frankenberg & Sons, Limited. Mr. Frankenberg senior recently entered for a second term upon the mayoralty of Salford, after which a number of employees of the company and their wives were entertained by the mayor and mayoress. There was presented to Mr. Frankenberg at that time a portrait of himself, purchased with subscriptions from every one employed in the factory. Mr. Frankenberg responded in his own behalf and Mr. Ralph Frankenberg in behalf of his mother, thanking those present for their expressions of good wishes.

THE RUBBER INDUSTRY IN EUROPE.

GROWTH OF A BELGIAN FACTORY.

THE business now conducted under the style Société O. Englebert Fils et Cie, was established in 1868 by the late Oscar Englebert-Condere, at Liege, as a dealer in rubber goods. The business proving successful from the beginning, he began soon to experience the need of means for manufacturing goods for filling small orders for immediate delivery, and these he undertook to supply. In 1877 Monsieur Englebert engaged definitely in rubber manufacture, organizing a plant having a floor area of

2,000 square meter [21,728 square feet]. This establishment has grown steadily until the area now exceeds 5,500 square meters. The business was organized into a joint stock company in 1802, under the management of O. Englebert fils. More than 500 workers are employed, and over 225 tons of rubber were consumed last year. Many interior and exterior views of the Liège factory and store are given in a handsome volume lately issued—"Guide Englebert Illustre." At the factory a wide range of rubber goods are made, and in the warehouse are carried the products of leading manufacturers abroad, but the Englebert specialty is pneumatic tires. By the way, the "Guide" referred to embraces a complete gazetteer of Belgium and Holland, for the benefit of motorists and cyclists on tour, with maps, lists of hotels, etc. There are branch Englebert factories at Givet (France) and Bussum (Holland), and branch selling depots in Brussels and Paris.

GREAT BRITAIN.

THE firm A. W. Leslie & Co., Limited, waste rubber merchants, 110 Stoke Newington road, London, are going through voluntary liquidation. Accounts are being settled by the official liquidators, Knox, Cropper & Co., 16 Finsbury circus, E. C., London. The above premises have been taken by A. W. Leslie, who will open the business of waste rubber merchant as soon as the matters in liquidation are settled.

The European Rubber Machinery Syndicate, Limited, has been registered at Manchester, with £50,000 capital, to acquire from Henry J. Doughty, of Providence, Rhode Island, certain patents relating to the manufacture of rubber boots and shoes, and machinery connected therewith.

The accounts of J. Mandleberg & Co., Limited, waterproof clothing manufacturers, at Manchester, for 1906, show a net profit of £25,000. The result of the year's trading shows a satisfactory improvement, having regard to the state of the waterproof trade, which, although exhibiting a general advance upon the previous year, has not yet returned to its normal level of demand. The prospects are considered good for the present year. Dividends: 7 per cent. on the cumulative preference shares and 12½ per cent. on the ordinary shares.

The Armstrong Trading Co., Limited, waste rubber merchants in London, have removed to larger premises at 16, Creechurch lane, Leadenhall street, E. C.

W. T. Henley's Telegraph Works Co., Limited (London), report a net profit for the business year 1906 of £63,959 [= \$311,256.47]. The dividend is 4 per cent. on the preference and 15 per cent. on the ordinary shares. The manufacture of underground lead covered cables has been commenced at the new Gravesend works.

GERMANY.

THE number of employees of the Continental Caoutchouc und Guttapercha-Compagnie (Hannover) increased during 1906 to 5,073. The number was 2,741 in 1903, 3,294 in 1904, and 4,516 in 1905.

In further commemoration of the fifty-year "jubilee" of the Harburg Comb Co., in 1906, a report of which appeared at the time in THE INDIA RUBBER WORLD, the company have brought out a mammoth comb, for distribution to their friends in the trade for advertising purposes, which they call the "Jubilee." In America the distribution is made by the company's representatives, Messrs. Schrader & Eilers, of New York.

The dividend of the Mitteldutsche Gummiwaren-Fabrik Louis Peter, A. G. (Frankfurt a. Main), is 8 per cent., against 7 per cent. last year.

The directors of the Hannoversche Gummi-Kamm Co., A. G., recommended a dividend of 21 per cent. for the last business year, against 20 per cent. for the year preceding.

The dividend of the Continental Caoutchouc-und Guttapercha-Compagnie (Hannover) for the business year 1906 was the same as for the previous year—40 per cent.

The Nederlandsch-Indische Caoutchouc-Compagnie has been organized by H. Diederichen, of Kiel, to plant rubber in the Dutch East Indies. The company has been registered in Holland, with 500,000 florins [\$201,000] capital.

The Gummiwerke Wundt (Offenbach a. Main), established in 1900 by Wilhelm Wundt, has been acquired by Carl Stockicht, of the works at Frankfurt, and will be operated under the name Offenbacher Gummiwerke Carl Stockicht.

The German consumption of raw rubber in 1905 is stated at 13,541 tons, or one-fifth of the world's production. Ninety factories were at work, with 100,000,000 marks [\$23,800,000] capital, and employing 32,000 workers.

AUSTRIA.

THE death is reported of Josef Kunz, factory director of the long established firm of Josef Reithoffers Söhne (Vienna), with rubber works at Garsten and Pyrach. Herr Kunz entered the employment of the company in 1853. Four years ago, at the celebration of his "jubilee," he was decorated by the Emperor with a golden cross in reward of his valuable service to industry.

SWITZERLAND.

J. LONSTROFF, of Geneva, proprietor of the Fabrique Genevoise de Caoutchouc, advises THE INDIA RUBBER WORLD that the capacity of his factory at Carouge, devoted to the production of surgical goods, with seamless nipples as a specialty, has been materially enlarged.

RUSSIA.

THE Russian-French Rubber Works "Prowodnik," at Riga, are reported to have made a profit during 1905 of 1,014,000 rubles [= \$522,210], on turnover of about 15,000,000 rubles. There were 4,500 workers employed. Riga has two other rubber plants, both smaller. The imports of crude rubber there for 1905 are stated at 126,000 poods [= 4,536,000 pounds].

FRANCE.

THE officers for 1907 of the French Chambre Syndicate des Fabricants de Pneumatiques are M. Bloch, president; MM. Louis Chauvin and Hausmann, vice-presidents; M. Valéry Hermay, secretary; M. Rémy, assistant secretary; M. Paul Treuil, treasurer; M. G. Viard, archivist.

WASTE RUBBER NOTES.

REFERRING to a communication in THE INDIA RUBBER WORLD [December 1, 1906—page 78] on "Russian Reclaimed Rubber," a correspondent asks why 7000 work people are required at the "Prowodnik" factory, at Riga, for their production of reclaimed rubber. It should be understood that the Riga factory turns out practically all lines of rubber goods, and is one of the largest plants in the world. Their rubber reclaiming business, though important, really is but a small proportion of the total production.

* * *

IN the list of grades of waste rubber printed in THE INDIA RUBBER WORLD, December 1, 1906 (page 80) by an inadvertence "P. O. gutta-percha strippings" were referred to as "poor old." Of course P. O. stands for Postoffice, the British postal department being the largest suppliers of gutta-percha strippings in the world.

THE completion of the National Tehuantepec railroad, across the isthmus of Tehuantepec, being the shortest route across Mexico, affords such improved facilities for transportation as cannot fail to prove of great benefit to the rubber and other planting interests in that region. The road is 190 miles in length, connecting the ports of Salina Cruz, on the Pacific, and Coatzacoahuas, on the Gulf of Mexico, at both of which ports capacious harbor terminals have been constructed by S. Pearson & Son.

New Goods and Specialties in Rubber.

ALLEN BATHING SUIT BAG.

THE sport of bathing is often marred by the annoyance attendant upon the care of one's clothes, for nothing is more of a nuisance to carry than the paraphernalia of bathing after the bath. Those who would not consider luring a



BATHING SUIT BAG.

suit are often deterred from the pleasure that a dip in old ocean would give them, simply because they do not wish to be burdened with wet bathing clothes. For these the Allen bathing suit bags have been designed. These bags are sufficiently large for the packing of a lady's entire bathing outfit—suit, sandals, stockings, cap, towel, etc. Yet they are not cumbersome or heavy, the largest size being only 4½ by 14 inches. The bags are referred to as being made of the best quality rubber lined material and are guaranteed watertight. The seams are double stitched. When not in use the bags can be folded and carried in the pocket. At the close of the bathing season the bathing suit may be packed in the bag with camphor and protected from moths. [The Allen Auto Specialty Co., No. 1031 Broadway, New York.]

G & J MOTOR CYCLE TIRES.

AMONG the most serviceable of the motor cycle tires the "G & J" has attained a place of prominence heretofore, but for 1907 several marked improvements have been made in them.



G & J MOTOR CYCLE TIRES.

Among these improvements is the hollow rim. Heretofore the tire has been made for use with a single piece steel rim. This season a hollow steel rim of very attractive shape has made its appearance, with a two-piece



MOTOR CYCLE TIRE WITH BAILEY HEAD.

center steel channel in which supplementary edges seat. This makes the construction and operation of the motor cycle tire the same as the G & J bicycle tire. The new tire, it will be seen, is easier to place on and remove from the rim than the old, and when in place and inflated it is impossible to roll or blow it off, as it will be quite impossible to pinch the inner tube. The G & J Bailey tread motor cycle tire, shown in the second illustration, is especially good for slippery roads and is practically of the same weight and construction as the regular motor cycle tire. [G & J Tire Co., Indianapolis, Indiana.]

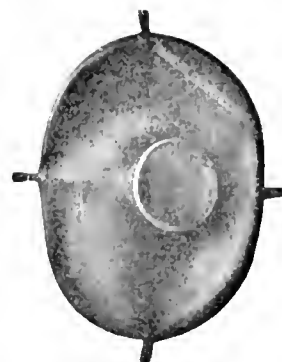
RUBBER AND CANVAS BOX FOR SHOES.

A box for toes, which renders the toe flexible or elastic, has been patented recently. It is easily put in position in the shoe and will not break down or be injured by exposure to moisture when worn. This is for the cut-off vamp type of shoe and is so devised that the box, tip, and vamp are secured together by a row of stitches, thus doing away with one stitching operation, and with the canvas forepiece usually employed, whereby the expense of making the shoe is reduced and its appearance is improved. This new box comprises what may be termed a body piece and a toe piece, the toe piece lying toward the interior of the shoe and the body piece outside the toe piece. The material for the body piece may be a sheet of rubber reinforced by

thin fabric or cloth. The toe piece is relatively thin at the edges and thicker in the cross edge where. An inexpensive and satisfactory way of joining the two is to superpose sheets of the reinforcing fabric or cloth and lay over and unite them by passing through hot rolls, thus rendering the use of cement or paste unnecessary and avoiding the tendency to stiffen the structure which is due to the use of such materials. [Patented by James N. Monlton, Haverhill, Massachusetts, assignor to the Waterproof Welt and Filler Co.]

GOODRICH ICE OR WATER CAPS.

THE beneficent agencies that make possible every sort of treatment that medical skill is capable of conceiving very largely find expression through the medium of rubber, directly or indirectly. The tendency of the times is toward natural remedies in so far as possible, and water enters largely into the prescribed treatment of the up-to-date physician. The ice or water cap is one of his chief reliance, and the success of his work depends to a degree, at least, upon the quality of his appurtenances. For comfort,

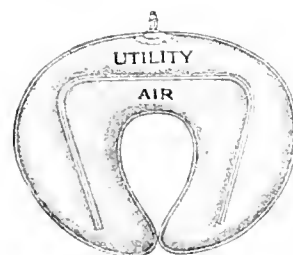


GOODRICH ICE CAP.

durability, and efficiency, the best is always desirable. The cap here illustrated is seamless, made of fine Para rubber, and provided with a screw cap. [The B. F. Goodrich Co., Akron, Ohio.]

SPORTSMAN'S AIR CUSHION.

ONE of the necessities of the sportsman, if his is to be genuine sport, is comfort. Without it there can be little satisfaction from a day in camp, shooting, canoeing, or whatever the sport may be. The Sportsman's cushion precludes all possibility of this, and moreover adds to the safety as well. For instance, it serves admirably as a life preserver that is always handy to throw overboard if any contingency arises. Thus in itself would make it almost a necessary part of the pleasure seeker's outfit, if any part of it is to be on the water. It can be used as a swimming collar to support the swimmer, as a seat in the canoe, on the porch or in camp, all in addition to the primary purpose, acting as a protection when carrying gun, oar, or canoe. The 6-inch extension over the shoulders has hollows for just these objects, and thus the neck is relieved of all pressure, which is most desirable in the case of a long tramp. Besides, the cushion is light and strong. [Metropolitan Air Goods Co., Reading, Massachusetts.]



SPORTSMAN'S AIR CUSHION.

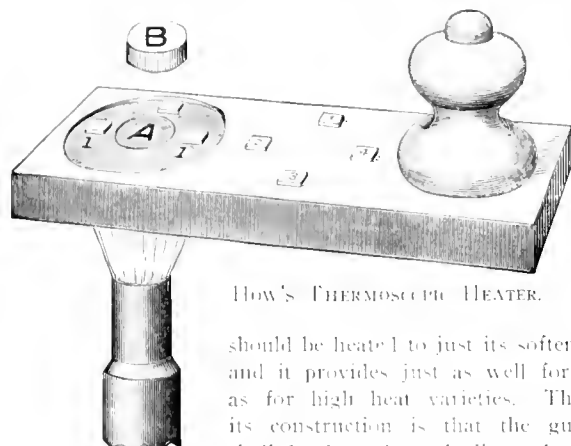
METALLIC STAIR NOSINGS.

For ease and safety in ascending and descending stairs, in many instances, rubber stair treads are often most desirable. After having become used to them, one has almost to cry "stair climbing again!" once deprived of those nerve and strength-saving accessories. And not only of those who use the stairs, but to those who are nearby, the use of treads is a matter of consideration, for the noise is so much lessened. But with rubber

treads and the grooves. These are supplemented by the set of flaps which cover the treads at the edge of the stairs. These come in all sizes and in various designs, including the plain, corrugated, half corrugated, diamond pattern, and so on, and are made in brass and zinc. [Painesville Metallic Binding Co., Painesville, Ohio.]

THERMOSCOPIC HEATER, FOR DENTISTS.

The Thermoscopic heater which is an invention of Dr. How, is an appliance for the proper heating of gutta-percha, which



HOW'S THERMOSCOPIC HEATER.

should be heated to just its softening point, and it provides just as well for low heat as for high heat varieties. The idea in its construction is that the gutta-percha shall be heated gradually and thoroughly without scorching, and that the operation shall have a correct gauge as to the degree of heat used. It is made of steatite or soapstone, with a wooden handle. A metal button in the steatite, which melts at 212° F., shows the softening temperature of low heat gutta-percha. For high heat gutta-perchas this is poured out and substituted by a second button which melts at 230° F. This is one of the many devices that have gone to facilitate and make easy the practice of dentistry and many members of the profession have found this simple little heater almost indispensable in their work. [The S. S. White Dental Manufacturing Co., Philadelphia.]

SAMPLE CASE OF RUBBER GOODS.

It is always a great advantage to a prospective buyer in almost any line of goods to be able to procure in advance samples of the



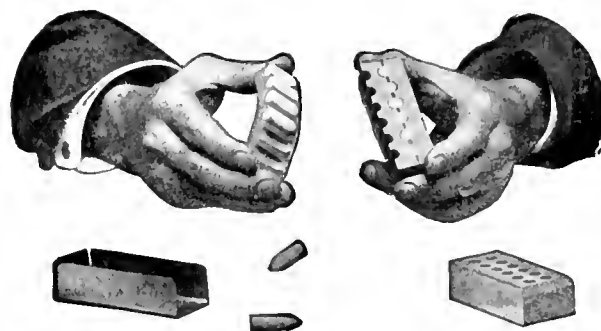
MECHANICAL RUBBER GOODS SAMPLE CASE.

goods which he wishes to purchase. In this connection is illustrated a sample case for mechanical goods which is both serviceable and attractive. It is adapted especially for different kinds of

packings, belting and hose, which can be arranged in the case so as to be examined conveniently. At the same time they can be packed in little space, which is an added advantage. [The Mechanical Rubber Co. (Chicago Rubber Works), Chicago.]

RUBBER SUPPOSITORY MOLDS.

A patent has been applied for for rubber suppository molds, the general use of which, it is claimed, would be an advantage over the brass molds now in use. Suppositories are made of either cacao butter mass or glycerinated gelatine mass, and are made either by a cold pressure machine or by pouring the melted mass into split brass molds. The pressure machines are expensive and do not turn out uniform suppositories, the medicament never being evenly distributed throughout the mass, and they are seldom used except for special purposes. Both in drugstores and manufactories the brass molds are generally employed for making suppositories, and on account of the machine work required in



SUPPOSITORY MOLDS.

finishing the brass mold they are very expensive, ranging anywhere from \$2.50 to \$100, according to size and capacity. An advantage in using rubber is that the rubber mold can be formed from iron patterns in the form of mats and these mats are then cut up so as to divide the mold into three parts, as shown in the illustration. This makes a great saving of expense in producing the article. Another advantage is in the actual working of the rubber mold itself, as it has always been difficult to remove suppositories from brass molds on account of the tendency to stick; in rubber molds the flexibility permits them to be easily ejected. [The Remington Manufacturing Co., Merchant's building, Philadelphia.]

"GLORIA" COIN MATS.

Coin mats are now conceded a necessity on nearly all counters over which change is made. The only question to be met is that of the choice of the best quality and fitness for the especial purpose to which each one is to be devoted. The better the grade of rubber, the better satisfaction is given, is the general consensus of opinion, hence those made of pure sponge rubber recommend themselves to the trade in a specific way. The mat known as the "Gloria" has this merit and also that of being attractive in appearance and convenient in size. Its measurements are 7 inches across, which dimensions meet the requirements of the ordinary uses to which coin mats are put. Another recommendation for their very general use lies in the fact that they are antiseptic, than which nothing could be of more importance when so much that is undesirable is transmitted by contact. [The Hanover Rubber Co., Hanover-Limmer, Germany. George Borgfeditz & Co., Nos. 48-50 West Fourth street, New York, sole agents for the United States and Canada.]

ACID TUBING.—The rubber drug known as "Atmoid" has been used with good results in the manufacture of acid tubing. For the tubing of the best quality it is recommended that 5 per cent of Atmoid be the only mineral filling used. For cheaper qualities a further addition of barytes may be used.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED FEBRUARY 12, 1907.

- N**O. 843,831. Mold for mounting rubber foot on shoe. M. C. Clark, Providence, R. I.
- 843,832. Rubber stamp. S. E. Timmons, Lawton, Okla.
- 843,866. Rocking chair. [A rubber tire is secured lengthwise to the rocking having protective tubes fastened over in each end of the tire, and a wire embedded in the tire and extending through the tubes, the projecting ends of the wire being secured to the rocker.] J. C. Abbott, Kansas City, Mo.
- 843,915. Hose supporter. J. H. Stoltzfus, Laurel, Miss.
- 843,933. Storm front for vehicles. [A brow board detachably secured to the front of the vehicle top, a frame hinged at its top to the brow board, a window sash hinged at its top to said brow board, and adapted to close the aperture of the frame.] L. C. Cokerill, Richmond, Ind.
- 843,972. Vehicle wheel [having inner and outer sections, with an intermediate elastic cushion.] W. Quivey, East Orange, N. J.
- 843,933. Bellows fold couplings for vestibul cars. [Comprising a plurality of hollow sections constructed from a fabric woven in a continuous piece, said sections being joined together in the process of weaving, and a waterproof coating upon the exterior of said coupling.] F. L. Perry, Sr., and F. L. Perry, Jr., Paterson, N. J.
- 843,338. Nonleakable fountain pen. C. A. Hayward, Boston.
- 843,346. Golf balls. [A manufacturing process consisting of taking a solid and elastic core, winding tightly and evenly thereover vulcanized rubber windings, a cotton cloth which is treated with elastic solution, and then heating the ball until the outer windings and the solution become soft, then placing the ball in a mold and subjecting it to pressure, allowing it to set.] A. B. and Jeannie MacNeill, Glasgow, Scotland.
- 843,478. Physical exerciser. Georg Muller, Berlin, assignor to Kolberger Anstalten fur Erziehung und Kultur Wilhelm Anhalt G. m. b. H., Kolberg, Germany.
- 843,507. Process of extracting rubber. [Continuous process of extracting rubber from rubber bearing plants consists (1) in reducing the material in the presence of water by a cutting action to its almost individual fibers, at the same time comminuting the rubber so that the resulting pulp of rubber and fiber will sink or tend to sink in water; (2) in separating this pulp into a floating and sinking portion by any suitable means; (3) in collecting the floating portion containing the rubber, and in further cleansing this portion to obtain clean rubber.] G. B. Bradshaw, Brooklyn, N. Y.

Trade Marks.

- 11,558. J. P. Sans, Brussels, Belgium. Picture of automobile approaching man who is carrying a tire and repair outfit. Used to mark solution for repairing pneumatic tires.
- 20,506. Black Cat Garter Co., Inc., Chicago. The word *Samson*. For hose supporters.
- 23,077. W. L. Bartell Co., New York. Picture of a tent in a downpour of rain. For waterproofed cotton piece goods.
- 24,409. George Frost Co., Boston. The word *Needham*. For hose supporters.
- 24,408. George Frost Co., Boston. The word *Kock-Knit*. For hose supporters.

ISSUED FEBRUARY 12, 1907.

- 843,627. Garter. G. H. Pichler, assignor to George Frost Co., both of Boston.
- 843,846. Vacuum evacuating device for jars. G. T. Reed, assignor to Continental Jar and Bottle Stopper Co., both of Baltimore, Md.
- 843,916. Insulating saddle staple. W. T. H. Taylor, W. J. Jenks, and R. N. Dyer, assignors to Insulating Stud Co., New York city.
- 843,693. Device whereby fire hose is coupled to hydrants. H. J. Page, assignor of one third each to E. S. Randall and T. P. Howard, all of Montreal, Canada.
- 844,007. Comb. [Having a back composed of three separately formed and detachable sections.] A. Ehrlich, Springfield, Mass.
- 844,661. Fountain pen retainer. L. D. Van Valkenburgh, Holyoke, Mass.
- 844,077. Process for the production of aqueous caoutchouc solutions and the regeneration of rubber waste. [Consists in dissolving caoutchouc, and treating the solution thus obtained with a strong alkaline aqueous liquid, adding water to the resulting product, and then subjecting the mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting alkaline liquid from the resulting viscous caoutchouc mass and dissolving this mass by stirring with water.] P. Alexander, Charlottenburg, Germany.
- 844,130. Insulating material and method of manufacturing the same. [Consists in impregnating material having printers' ink therein with

- oil, and then drying the material in a vacuum oven.] J. E. H. Smith, assignor of one half to Charles S. Smith, Charlottenburg, Germany.
- 44,242. Rust supporter. J. Charles Brock, Charlottenburg, Germany.
- 44,286. Garter. J. E. O'Brien, Buffalo, N. Y.

Trade Marks.

- 27,222. Black Cat Garter Co., Inc., Chicago. The word *Heavenly*. For hose supporters.
- 3,687. J. S. Dusenbury, New York city. The word *Link*. For tubes for automobiles.
- 18,887. Revco Rubber Co., Boston. The word *Samson*. For hose and packing.
- 24,376. George S. Colton, Easthampton, Mass. The words *Extra Fine Quality Giant Elastic Web*, in a fanciful frame-like setting, for elastic webbing.
- 24,501. Revco Rubber Co., Boston. Picture of a man subduing a lion. For hose and packings.

ISSUED FEBRUARY 19, 1907.

- 844,335. Syringe. J. H. Dodson, Chicago.
- 844,403. Wheel. [Comprises a felly, spokes, and a ring connected together, a hub of lesser diameter than the ring, a pneumatic ring interposed between the ring and the hub and springs at opposite sides of the wheel.] D. Robinson, Brookline, Mass.
- 844,413. Comb. [In connection with a comb means for marking a part.] J. J. Schults, Chicago.
- 844,575. Fountain pen. J. S. Barnes, Rockford, Ill.
- 844,576. Fountain pen. *Same*.
- 844,646. Fountain pen. H. W. Bahr, Helsingfors, Russia.
- 844,728. Rubber-tired wheel. [Solid rubber tire.] J. P. J. Huston, Evans-ton, Ill.
- 844,826. Method of forming pneumatic tires or tire casings. [Consists in forming and partly vulcanizing the body, applying an adhesive element to the outer surface, then applying an unvulcanized tread portion so formed as to be vulcanized in the time required to complete the vulcanization of the body portion and finally vulcanizing the whole structure.] A. H. Marks, Akron, Ohio.
- 844,821. Solid rubber tire. *Same*.
- 844,822. Method of forming solid rubber tires. [A tire having a plurality of layers of metal fabric or the like embedded therein; the method consisting in forming two parts of rubber compound having one or more layers of metal fabric embedded in each and then uniting said parts to form an integral whole.] *Same*.
- 844,882. Heel for boots and shoes. J. E. Lohr, Pittsburgh, Pa.

Trade Marks.

- 12,994. F. H. Mooney, Chicago. Picture of a crescent moon with the man's face in profile, over his ear a fountain pen and in front of his face the letter *E*. For fountain pens.

ISSUED FEBRUARY 26, 1907.

- 845,137. Pneumatic hub for wheels. W. S. H. Smith, Croydon, England.
- 845,249. Syringe nozzle. N. E. Morris, Marietta, Ohio.
- 845,361. Syringe. T. J. Kernan, Akron, Ohio.
- 845,321. Garter supporter or garter. H. M. Stridham, New York city.
- 845,375. Pneumatic cushioning wheel support. G. W. Bell, Liverpool, England.
- 845,349. Hose supporter. H. C. Giles, Rutherford, N. J., and W. W. W. Co., New York city.
- 845,375. Curtain support. W. Hubert, assignor of one half to J. Wiener, both of Chicago.
- 845,436. Storm shield for vehicles. J. J. Russell, Jr., Deepwater, Mo.
- 845,077. Pocket clip for fountain pens. H. B. Levy, New York city.

Reissues.

- 12,994. F. H. Mooney, Chicago. Picture of a crescent moon with the man's face in profile, over his ear a fountain pen and in front of his face the letter *E*. For fountain pens. (Original No. 832,751, October 9, 1906.)

Trade Marks.

- 24,807. Alfred Hale Rubber Co., Boston. The words *Revco*. For marking rubber cement.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD either at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND

PATENT SPECIFICATIONS PUBLISHED.

The following are those assigned to the Patent at the filing of the Application in the case of those listed below was in 1905.

Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 23, 1907.]

- 20,844 (1905). Sole protector. A. F. Wells, Dorchester.
 20,864 (1905). Device for inflating pneumatic tires. A. G. Lavertine and J. I. McNellan, both of Johannesburg, Transvaal.
 20,887 (1905). Bottle stopper. E. Bagat, Vienna.
 20,923 (1905). Pneumatic tire attachment. [The pairs of tires are connected by flexible tubes passing through the axle, the object being to ensure that the tires collapse simultaneously in case of an accident to either.] F. A. U. Dacle, Gmel, Belgium.
 20,938 (1905). Tire shield [to be fitted between the air tube and outer cover, or built into the canvas layers of the cover, consists of cotton, with sufficient of the oil removed, dressed with shellac and a solution of gum mastic]. F. W. Colman and A. J. L. Glidden, London.
 20,932 (1905). Sole and heel protector. W. J. Tonks, Birmingham.
 20,131 (1905). Tire cover [provided with a band of leather and metal plates, to prevent skidding or puncture]. C. Taylor, Eccles, and J. F. Riding, Pendleton, Lancashire.
 20,101 (1905). Pneumatic tire [with metal plates to prevent punctures]. L. Hayward, Morton, Surrey.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JANUARY 30, 1907.]

- 20,932 (1905). Stocking suspenders [supplied with abdominal or hip pads]. S. Mayser, New York.
 20,937 (1905). Pneumatic tire. M. Bunn, Lyons, France.
 20,938 (1905). Pneumatic tire. [Covers and tread bands are made from leather which has not been unharded. The band of hairy leather is secured by rivets to the cover.] E. Fortier-Beaulieu and A. Fortier-Beaulieu, Roanne, France.
 20,937 (1905). Revolvable heel pad. G. Morton, Blackley, Manchester.
 20,972 (1905). Elastic tire [secured in position by the lateral movement of screw threaded rings engaging with circumferential threads cut on the periphery of the felloe or rim]. C. K. Welch, Coventry.
 20,984 (1905). Spring wheel with elastic tire. J. C. Bunge, Amsterdam, Holland.
 20,997 (1905). Pneumatic tire, with removable tread band. H. W. Cave-Brown Cave, London.
 20,999 (1905). India-rubber. [Means for extracting the more valuable part from crude rubber.] M. Wilderman, Ealing, Middlesex.
 20,976 (1905). Flexible tube for connecting an inflator to a pneumatic tire. A. Smith, Parole, Birmingham.
 20,942 (1905). Pneumatic tire. R. and C. H. Wallwork, both of Manchester.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 6, 1907.]

- 20,968 (1905). Spanner for stretching or opening punctures in pneumatic tires. H. S. Bellanca, Weston-super-Mare.
 20,960 (1905). Pneumatic tire [with fabric and sheet cork combined in alternate layers by means of cambriche]. P. Desprez, Lyons, France.
 20,978 (1905). Pneumatic tire [embodying a coarse linen fabric known as "dabbles"]. W. Whitmore and G. Allan, both in Kenton, Stowmarket, Suffolk.
 20,973 (1905). Spring wheels with elastic tire. A. L. H. Ripert and P. Schmitt, Asmeres, France.
 20,949 (1905). Mandrel for joining the ends of pneumatic tire tubes. C. Lee and County Chemical Co., both in Birmingham.
 20,854 (1905). Pneumatic tire. [With puncture preventing strip of French linen enclosed in canvas.] A. E. Matthews, Brixton.
 20,885 (1905). Suction carpet cleaner. A. Hein, Berlin, Germany.
 20,905. Golf ball [having a core formed of a spherical rubber bag, filled with incompressible fluid]. F. H. Mungay, Berfield, Renfrewshire.
 21,000 (1905). Spring wheel, with pneumatic cushion and solid rubber rim tire. G. P. Apocard, Brixton, Yorkshire.
 21,031 (1905). Swimming attachment, for the foot. E. J. McKittrick, Walla Walla, Washington.
 21,033 (1905). Cushion heel for boots. J. H. W. Evans, Rangoon, Burma.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 13, 1907.]

- 21,136 (1905). Hoof pad. P. Clifford and D. J. Corbett, both of Buffalo, New York.
 21,163 (1905). Pneumatic tire. [To prevent slipping or punctures, a leather band is fastened inside the outer cover by cyclets; steel or like studs are passed through the cyclets and their shanks are riveted down over metal washers.] E. W. Pratt, London.
 21,169 (1905). Tire for heavy vehicles [comprising metal or other shoes, fitting over rubber cushions which are spaced around the felloe]. A. T. Collier, St. Albans, and Railhoe Tyre Co., London.
 21,182 (1905). Pneumatic tires [with puncture preventing slip]. F. J. Moran, Birkenhead.

- 21,134 (1905). Vacuum cleaning apparatus [for carpets and the like]. W. Ganth, Birmingham.
 21,136 (1905). Hose coupling. D. Hurst and Brierley, Ltd., Rochdale.
 21,362 (1905). Hose coupling. E. Schwaneberger and J. Thomson, Pittsburgh, Pennsylvania.
 21,117 (1905). Means of securing detachable soles and heels. A. Seitz, Rastatt in Baden, Germany.
 21,530 (1905). Solid tire. [Means of securing to the felloe by hollow split wedge rings drawn together by traverse bolts.] Thomas Midgley, Hartford, Connecticut.
 21,595 (1905). Golf ball [with core formed of spiral springs.] R. L. and E. M. Urquhart, both of Edinburgh.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION)

- 367,925 (July 9, 1906). Gilmann. Spring wheel.
 367,931 (July 10). Swinchart Cluiche Tire and Rubber Co. Pneumatic tire.
 368,003 (July 12). Sabra. Elastic tire.
 368,079 (July 16). A. Montandon. Spring wheel.
 368,102 (July 17). Wensch. Billard cue rubbers.
 368,105 (July 18). J. S. Barney. Pneumatic tire.
 368,222 (July 16). A. Deschamps. Tire.
 368,226 (July 17). J. Carner. Antiskid tire.
 368,144 (June 29). W. A. Koonman. Reclaiming rubber.
 368,273 (May 29). H. Dancer. Rubber head on leather tire.
 368,354 (July 27). H. Blauq. Spring wheel.
 368,391 (July 26). G. Granger. Removable rim.
 368,459 (July 27). F. L. Dozen. Pneumatic tire.
 368,466 (July 28). C. Gabet. Removable rim.
 368,525 (July 30). Societe Michelin et Cie. Tire pressure gauge.
 368,571 (Aug. 1). C. L. Charley. Removable rim.

[NOTE. Printed copies of specifications of French patents may be obtained from R. Robert, Ingenieur-Cours II, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

BALATA ON THE FREE LIST AGAIN.

A DECISION in the United States circuit court for the southern district of New York (published in *Treasury Decisions*, March 7, 1907,) reverses the decision of the board of United States general appraisers, affirming the assessment of duty by the collector of customs at the port of New York on crude balata at 10 per cent. *ad valorem* as "a nonenumerated unmanufactured article," under section 6 of the Tariff act of 1897.

The importers (Earle Brothers) claimed that balata is entitled to free entry as "india-rubber, crude," under paragraph 579 of the Tariff act. It was not denied that, botanically, the tree yielding balata differs from that to the gum of which the term "india-rubber" was first applied. But under the rule that, in laws relating to the revenues, words are to be taken in their commonly received and popular sense, or according to their commercial designation, the importers contended that there was no one kind of gum identified by the words of the Tariff act, "india-rubber, crude." The word "india-rubber" is used to designate nearly a hundred varieties of "inspissated vegetable gums" capable of use in making "india-rubber" goods.

In rendering the latest decision, Judge Hough said: "In my opinion, these contentions of the importers have been abundantly sustained by the testimony introduced in this court. I think it must be assumed that the framers of the Tariff act knew that there was a great variety of gums generically and commercially described as 'india-rubber,' and within that category balata is fairly included." [See THE INDIA RUBBER WORLD, March 1, 1907, page 180.]

* * *

THE imports of balata into the United States are small, as compared with some other countries, but undoubtedly the following treasury department figures understate the amount, through a failure in some cases to classify balata separately:

Years.	Pounds.	Value.	Av. Value.
1900-01.....	7,635	\$1,087	26 cents.
1901-02.....	15,762	7,441	47.2 cents.
1902-03.....	8,467	3,387	40.1 cents.
1903-04.....	113,490	45,548	40.1 cents.
1904-05.....	211,612	79,203	37.5 cents.

The Rubber Manufacturers' Mutual Insurance Company

AND ITS ACTIVE HEAD.

EARLY in 1884 the late Benjamin F. Taft and his son, Benjamin Taft, at that time prominent in the Cotton and Woolen Manufacturers' Mutual Insurance Co., met in Boston certain leading rubber manufacturers to consider a plan for a mutual insurance company that should consider fire risks in rubber factories. At that time, be it noted, rubber factories were considered so hazardous that fire insurance companies refused to rate them at all, and if they insured them it was a matter of special negotiation and rating.

In November, 1884, the Rubber Manufacturers' Mutual Insurance Co. was chartered under the laws of Massachusetts, the following rubber manufacturers being the organizers: George H. Hood, Isaac P. T. Edmonds, Elisha S. Converse, Eugene H. Clapp, Robert D. Evans, Wheeler Cable, Freeman Wight (temporary incorporator and succeeded very soon by Henry L. Hotchkiss), Henry C. Morse, and James Bennett Forsyth, with the very important addition to the board of two men not rubber manufacturers, Benjamin Franklin Taft and Benjamin Taft. Very soon afterward the late George F. Hodgman, of New York, was added to the board. The company started out with the very cheering prediction from the Massachusetts insurance commissioner that it would live about six months.

The first policy which the company wrote was dated January 15, 1885, and issued to the Boston Rubber Shoe Co., the rate being \$3 per hundred. It is interesting to note also that about the same time the Woonsocket Rubber Co. took out a policy, the rate being \$4 per hundred, and the Actna Rubber Mills one at \$4.50 per hundred. As a matter of contrast it should be stated here that the present rate is 15 cents per hundred, that the company is still alive, as will be seen by the annual report printed below, and that it has saved insurers thousands and thousands of dollars. Beyond this, by bringing together men who were practical rubber manufacturers, who not only knew the risks in their business, but could provide adequate remedies for them and in nearly every instance remove them in building construction or in adapting processes, the whole complexion of rubber risks has entirely changed, so that to-day the old line companies are bidding for and accepting rubber risks at rates that a few years ago would have seemed impossible.

The charter of the Rubber Manufacturers' Mutual Insurance Co. specifies broadly insurance on manufacturing property and buildings and stock, especially rubber manufacturing property, and quite lately this has been broadened so that property other than manufacturing or in process of manufacture, that is property in storehouses, may be insured.

The directors of the Rubber Manufacturers' Mutual Insurance Co., who meet once a month, have always been leading rubber manufacturers, and these meetings have been most potent in bringing together the leading rubber interests on a friendly basis, so that an incidental effect of this association has been an exceedingly friendly and respectful appreciation by each other of men who in business were naturally keen competitors.

It is impossible to mention the Rubber Manufacturers' Mutual Insurance Co. without calling attention to the Cotton and Woolen

Manufacturers' Mutual Insurance Co., organized in 1875, and the Industrial Mutual Insurance Co., organized in 1890. All the three companies are run from the same offices at No. 31 Milk street, Boston, and are very closely identified with each other as far as policy, management and officers go. The present management of the Rubber Manufacturers' Mutual Insurance Co. is as follows:

President: ARTHUR W. CLAPP.

Vice President: BENJAMIN TAFT.

Secretary and Treasurer: BENJAMIN TAFT.

Assistant Secretary and Assistant Treasurer: F. W. MOSES.

Assistant Secretary: W. B. BROPHY.

Directors: George H. Hood, Boston; Benjamin Taft, Acton, Mass.; Marcus Beebe, Malden, Mass.; Robert Batchelder, Boston; F. E. Page, Woburn, Mass.; A. W. Clapp, Weston, Mass.; C. C. Converse, Malden, Mass.; E. H. Clapp, Boston; M. V. B. Jefferson, Worcester, Mass.; F. W. Pitcher, East Hampton, Mass.; W. B. Plunkett, Adams, Mass.; C. F. Stevens, Ware, Mass.; E. S. Williams, Malden, Mass.; George B. Holleman, New York; Arthur H. Lowe, Fitchburg, Mass.

The presence of some men who are not rubber manufacturers on this board is offset by the presence of rubber manufacturers on the boards of the other two companies. For example, on the board of the Cotton and Woolen Manufacturers' Mutual Insurance Co. appear the names of H. E. Converse, F. W. Pitcher, Arthur W. Clapp and E. S. Williams, and on the board of the Industrial company are C. C. Converse, Lester Leland, Arthur W. Clapp, F. W. Pitcher and E. H. Clapp.

At the last annual meeting of the Rubber Manufacturers' Mutual Insurance Co. the following financial report was made:

Amount at risk.....\$51,755,524.00

ASSETS.

Bonds at book value.....	\$352,000.00
Cash in bank and office.....	26,287.50
Premiums in process of collection.....	11,313.77
Accrued interest.....	5,672.07

Gross cash.....\$395,273.33

LIABILITIES.

Unadjusted losses.....	\$22,019.88
*Unearned premiums on outstaring risks.....	231,917.05
	253,936.93

Net cash.....	\$141,340.30
Assessment liability.....	2,316,170.55

Total amount applicable to payment of losses.....	\$2,460,510.85
Average dividend paid in 1906, 85 per cent.	

* Unearned premiums only because due after notice of cancellation of policies, and are even then deferred claims until all losses shall have been paid. Add Unearned Premiums to Total Assets and you have amount applicable to paying losses.

As is indicated above the practical head of the Rubber Manufacturers' Mutual Insurance Co. at its inception was the late Benjamin Franklin Taft, whose personality and work THE INDIA RUBBER WORLD always appreciated. At the time of his decease in 1901, his son, Benjamin Taft, who has been in the company from its beginning, became its secretary and active head.

Benjamin Taft was born April 20, 1852, in Northbridge, Massachusetts, where his family had lived for many generations. He was educated in the public schools in Ayer and Groton, graduated from Lawrence Academy, Groton, and later at Bryant & Stratton's Commercial College in Boston. His first beginnings as a business man were as a printer at Groton Junction. Later he went into the manufacture of woodenware with his father at West Acton, Massachusetts. Then he took a position with the Boston and Maine railroad, and in 1877, at the earnest request of his father, came into the Cotton and Woolen Manufacturers' Mutual Insurance Co. as assistant secretary. Mr. Taft is a 32°



BENJAMIN TAFT.

Mason, and indeed, a prominent official in the Scottish Rite bodies. He is also an Odd Fellow, these two bodies summing up about the only relaxation he takes. Perhaps an exception should be taken to this, however, by the statement that insurance is to him, not a daily grind, but a relaxation. No one can come into contact with him without appreciating how he not only knows, but loves every detail of insurance, and what an enjoyable profession he makes of it.

The rubber trade owe a great deal to the Rubber Manufacturers' Mutual Insurance Co. in the work that they have done in reducing risks in rubber manufacture and in minimizing premiums, and in saying that one really says what the rubber trade owes to the Tafts—father and son.

AMERICANS START FOR THE CONGO.

THE first expedition to be sent to Africa for the development of the Congo concession granted recently to a group of American capitalists, left New York on March 5 on the steamer *Kaiser Wilhelm der Grosse*. The party numbered 18, including mining and other experts, and was to be joined at Cherbourg by representatives of the Belgian group who are financially interested. At the head of the expedition was Dr. Samuel Phillips Verner, general manager of the American Congo Co. (No. 35 Nassau street, New York), who has spent many years in African exploration. The headquarters of the American party will be, at least for some months, at Leopoldville, on Stanley Pool, and the party expect to be absent 18 months. Three of the party are members of the United States Geological Survey, who have been granted leave of absence. As reported already in THE INDIA RUBBER WORLD (January 1, 1907, page 106) the American *concessionnaires* are to be concerned largely in mining as well as in rubber, but it is probable that the rubber interest will be the first to be developed.

It is Mr. Verner's idea that the first steps to be taken in the Congo should be in the direction of gaining the confidence of the natives and providing for the comfort of those to be employed. He regards the native population as too small to develop the Congo resources fully, and thinks that good opportunities will exist there for Americans, both white and colored.

According to the *Mouvement Geographique* (Brussels) the council of administration of the American Congo Co. is composed of Nelson W. Aldrich, Bernard M. Baruch, A. Chester Beatty, P. L. E. Christaens, Henri De Keyser, Daniel Guggenheim, Solomon R. Guggenheim, L. Hanolst, E. Hinck, E. Huysmans, A. Rouffart and Thomas F. Ryan. [The names of the Belgian group are printed in italics.] Mr. Aldrich is a United States senator for Rhode Island; the Messrs. Guggenheim are members of M. Guggenheim's Sons, smelters, and of the Guggenheim Exploration Co. Simon Guggenheim, a brother of two members of the council, has been elected recently a United States senator for Colorado. Mr. Baruch is a New York broker with interests in common with the Guggenheims, and Mr. Beatty is a mining expert in their employ. Mr. Ryan is a banker.

A PIONEER CONGO RUBBER TRADE.

THE American Congo Co. are not the first American enterprise in the Congo rubber trade. General Henry Shelton Sanford, U. S. A., an American supporter of King Leopold's African project from its inception, may be regarded as the pioneer in the direct trade with the natives of the Congo interior in ivory and rubber. His company, formed for this purpose, the Sanford Exploring Expedition, was merged in 1888 with the *Société Anonyme Belge pour le Commerce du Haut Congo*, formed in that year and still existing. General Sanford was born in Connecticut in 1823 and entered the United States diplomatic service in 1849, serving as minister to Belgium in 1861-69. He was one of the founders, in 1877, of the International African Association, planned by King Leopold. The flag of the association was un-

recognized by any power until 1884, when General Sanford secured its recognition by the United States government in a declaration on the strength of which the association assumed the dignity of a state and assumed the name "Etat Independent du Congo." The document referred to was signed, on behalf of the association, by General Sanford. At the Berlin conference of 1884-85, of the powers which by that time had recognized the Congo Free State, General Sanford was one of the two delegates from the United States. Before his death Sanford founded the town of Sanford, Florida.

THE SENATE WANTS TO KNOW.

IN the United States senate, on March 1, a resolution was offered requesting the President to state whether the government had information as to the granting of a concession by the Congo Free State to citizens of the United States for gathering rubber in that state. The resolution asks for the names of such citizens, the boundaries of the concession, and the powers given to the *concessionnaires* particularly "what powers are given by such concession to such company or syndicate to exercise government or control over the native people of such area, either separately or in cooperation with the government exercised by King Leopold over the Free State of the Congo." Also, whether such company "has submitted its concession to the government of the United States for approval or disapproval, and whether the same has been approved." The senate adjourned until December without action on the resolution.

A RUBBER SUBSTITUTE FROM IOWA.

WRITING from Fort Dodge, Iowa, to THE INDIA RUBBER WORLD, Miss Mabelle Newland says: "I have, after several years of study and work, perfected a substitute for rubber." From newspapers published in the same locality it is learned that the lady mentioned has been granted a patent in the United States and several other countries "on a chemical composition which cannot be told from genuine Pará rubber." Another report is that this composition "will do anything that can be accomplished with the best Pará rubber, and can be manufactured at one-fourth the cost of genuine rubber." Miss Newland is mentioned as being employed in a telephone exchange.

"ZACKINGUMMI."

ZACKINGUMMI is the name given to a new substitute for rubber invented by Zacharias Olsson, a chemist of Upsala, Sweden. It is claimed to contain no rubber, and to be produced at a cost of about one-third the cost of rubber. It has been used in making a number of articles, including rubber stamps and gas tubing; also for a tire filler, to be used instead of air tubes. It is stated that a company has been formed to erect a factory for making the new material.

BRAZILIAN RUBBER TRUST.

THE reports presented at the fifth annual meeting of The Brazilian Rubber Trust, Limited (London, December 7), showed a continued absence of profits. It was pointed out, however, by the chairman, Mr. Ashmore Russau, that the company's property had grown more valuable during the five years, ending April 30 next, that it had been under lease to a Brazilian group. The company had been obliged to accept a very low rental, at the beginning. Upon the expiration of the lease they would be certain to be able to do much better. The company had decided upon a reorganization, with increased capital, and it was believed that the shareholders would begin to get a return upon their investment. Mr. Russau was reelected chairman. The company was formed to succeed the unsuccessful Rubber Estates of Pará, Limited, organized in 1868, with £350,000 capital, to purchase the rubber property of the Visconde de Sao Domingos, on the island of Marajo, near Pará.

RUBBER PLANTING INTERESTS.

PRODUCTION IN THE FAR EAST

THE exports of plantation rubber from Ceylon and the Malay States during 1906, according to *The Times of Ceylon*, totaled 1,100,870 pounds, against 397,347 pounds in 1905. The share of Ceylon in this total is somewhat less than had been supposed, seeing that all the exports from Ceylon were credited to that island until a corrected statement came out at the end of the year. It now appears that the rubber of Ceylon produced and exported during the year was 327,024 pounds, leaving 803,855 pounds for the production of the Malay peninsula. The approximate value to the planters of the Ceylon produce is estimated by the *Times* at about 1,250,000 rupees, which works out at about \$405,543 (gold), or \$1.24 per pound, including all grades.

The 1906 yield of rubber on some of the Federated Malay States plantations is reported as follows:

	Pounds.
Highlands and Lowlands Para Rubber Co., Ltd.	130,305
The Anglo-Malay Rubber Co. (Malaya) Ltd.	100,000
Pataling Rubber Estates Syndicate, Ltd.	43,386
Consolidated Malay Rubber Estates, Ltd.	32,500
Vallambrosa Rubber Co. (nine months)	90,258
The yield of the Kepitigalla estate, in Ceylon, was 31,000 pounds.	

THE NEW "BLOCK" RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the Ceylon Rubber Exhibition it was suggested by Dr. Willis that it might be advisable, instead of, as at present, drying the plantation rubber till it only contains about 1/2 per cent. of moisture, to block it in the wet freshly coagulated condition. Experiments with this object were at once carried out by Mr. Kelway Bamber, the Ceylon government chemist. He prepared the rubber with creosote (to prevent decay and mold) and blocked it at once, getting blocks containing about 9 per cent. of water. These sold in London for 5s. 6d. per pound, against 5s. 7d. to 5s. 9d. for the ordinary dry Ceylon rubber, thus really getting a much better price. A circular (Circular and Agricultural Journal of the Royal Botanic Gardens, Peradeniya—Vol. IV, No. 1) has been lately issued dealing with this matter, and it would seem likely that the old way of making dry biscuits or sheets will soon be extinct.

JOHN C. WILLIS,

Director Royal Botanic Gardens.

Peradeniya, Ceylon, 18 January, 1907.

VAN DEN KERCKHOVE'S "FUMERO."

The illustration relates to the "Fumero," for coagulating rubber by a smoking process, patented by Gustave Van den Kerckhove, of Brussels, and mentioned in THE INDIA RUBBER WORLD March 1, 1907 (page 200). The device proper is really only a small furnace, the latex being coagulated on a paddle in the hands of the operator, revolved over the furnace, in the escaping smoke. The screw half way up the side of the fire chamber is for regulating the smoke. For fuel, palm nuts are preferable, but if these are lacking, the bark of any tree may be used, but not dry

wood. Dried leaves may also be used. This device is intended for use in the East.

RUBBER TAPPING AT LA ZACUALPA

THE manager of L. Z. C. Rubber Planting Co., having decided to start rubber tapping on a large scale at their plantation in Chapala, Colima, Mexico, Mr. C. A. Lusher, set apart eleven men to tap the trees, which most satisfactory results are being obtained. The tool consists of a loop of steel in a handle 18 inches long and having inside of it a long steel finger, which is moved forward and held by a thumb screw to regulate the depth of the cut. It is used in various sizes, depending upon the age of the tree, and therefore the thickness of the bark to be cut through. The tool

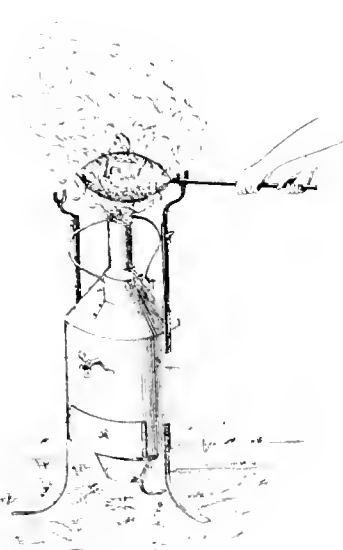


MANAGER C. A. LUSHER AND HIS RUBBER TAPPING TOOL.

is very sharp on the entire lower edge of the loop. This allows a sharp, clean, quick cut to be made. At present, one man can tap from 60 to 70 trees in a day. The latex is caught in cups or pans; it is strained twice, to rid it of foreign matter; washed four times, allowed to coagulate, and run between powerful rollers to express the water. By the washing process it is believed that the greater part of the resins are removed from the collection, and while the shrinkage is greater, the resulting product is superior and is expected to bring a better price.

BRIEF MENTION.

MR. H. K. RUTHERFORD, of London, principally interested in tea planting and a director in a number of rubber planting companies, was a recent visitor to Ceylon and the Malay States.



FUMERO V. D. K.

THE RISE IN PRICE OF SEA ISLAND COTTON.

THE price of Sea Island cotton fabrics has been a matter of unusual concern this season to the manufacturers of pneumatic tires. Raw Sea Island cotton has never before reached such figures. The table herewith, compiled for THE INDIA RUBBER WORLD by Messrs. John Malloch & Co., of Savannah, Georgia, where is the principal market for Sea Island, gives the range of prices (in cents per pound) at Savannah during the "active" months of each year. New York prices usually are 1 cent per pound higher. The basis for quotations is the "fine" grade; there are lower priced grades, while "extra fine" may go 5 cents or more above the base price.

The Sea Island cotton crop of 1906-07, not yet all marketed, is reported much smaller than for some years past. Messrs. Malloch & Co. estimate it at slightly less than 60,000 bales. The crop for six preceding years was: 88,725 bales in 1900-01; 84,522 bales in 1901-02; 105,955 bales in 1902-03; 76,414 bales in 1903-04; 102,101 bales in 1904-05, and 123,789 bales in 1905-06, the latter being the largest on record.

The amount of Sea Island cotton taken by American mills in the season of 1905-06 was 60,000 bales, the remainder being exported. If the total crop this year should amount only to 60,000 bales, it will be seen that manufacturers must look to other sources for long staple cotton. As is well known, there are exceptionally good lots of ordinary cotton which bring fancy prices. Recently a Fall River manufacturer was reported as saying that the cotton used by the mills making the finest cloth there cost in the neighborhood of 23 cents—nearly double the New York quotation for middling. Egyptian cotton, on account of its long staple, is imported to an important extent, the amount taken by the United States in 1905-06 reaching 105,607 bales. The relation of prices was indicated by a recent New York quotation supplied to THE INDIA RUBBER WORLD: 38 cents for Sea Island and 25 cents for Egyptian.

The Sea Island cotton growers have been organizing of late years, with the idea of limiting production, in order to maintain prices at what they consider a figure that will yield a profit. How far the smaller crop of 1906 is due to such action it is not possible as yet to say. At the annual meeting of the Sea Island Cotton Association, at Valdosta, Georgia, in January, a resolution was adopted calling upon planters to reduce their acreage this year below that of last year.

* * *

FROM Messrs. W. W. Gordon & Co., cotton factors at Savannah, have been received the following quotations for Sea Island cotton for the present and the past five seasons. The highest price touched for the best grade during each season is given, and the lowest price for the lowest grade. Also, the high and low price for "Fancy Georgias," which is the standard grade of the crop:

SEASON.	Crop (Bales).	Highest Price.	Lowest Price.	Fancy Georgias, High.	Low.
1900-07.....	60,000	40c.	16c.	37c.	21c.
1905-06.....	123,804	23c.	15c.	23c.	17½c.
1904-05.....	102,608	23c.	11c.	21c.	17c.
1903-04.....	76,794	30c.	16c.	27c.	20c.
1902-03.....	102,934	23c.	12c.	19c.	18c.
1901-02.....	78,621	23c.	14½c.	22c.	27c.

[Estimated.]

Our correspondents write: "We omit quotations of genuine Sea Island cotton. The Island crop is usually one-tenth of the total production, and consists principally of so-called 'crop lots' which sell at very irregular prices, varying from 35 to 75 cents per pound in the same season for different crops, according to

SAVANNAH PRICES (CENTS PER POUND) DURING THE ACTIVE MONTHS OF SEVEN YEARS.

	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07
September...	21-22	19-20	18-18½	-20	19½-20	18-19	-22
October...	22-24	18-20	18-18½	19½-20	19½-19¾	17¾-19½	22-25½
November...	21-23	18-20	18½-19	20-23	19-20	17¾-18½	25½-30
December...	21½-22	21-22	18½-19½	-23	19-20	18-18½	30-36
January...	22-24½	-22	19½-20	23½-30½	18½-19	17½-17¾	35-36
February...	21-22½	-22	19½-20	-26½	-18	17-18	34-35
March...	19-21	22-22½	19½-20	26½-28*	17-18	18-20	34-36
April...	17½-20	22½-23	19½-20	-28*	17-18	20-21	
May...	17½-19	23-23½	19½-20	25-28*	-17½	-21	

*Nominal quotations. Very little cotton sold at these figures. Prices declined to 21-22 cents in August.

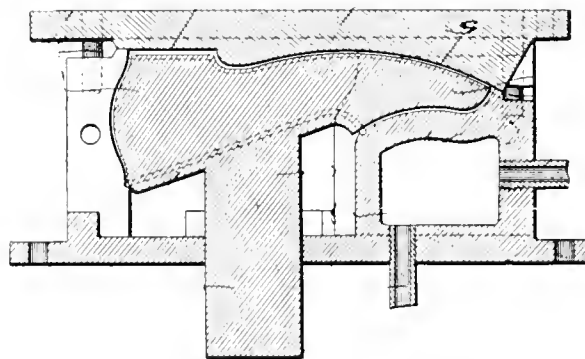
quality." The production of Sea Island cotton on the mainland is in the states of Florida, Georgia, and the Carolinas.

The impression prevails at Savannah that the present prices of Sea Island cotton are abnormal and that lower prices will prevail next season. Since the above matter was put in type the government reports the last Sea Island crop at 57,352 bales.

CLARK'S NEW SHOE MOLD.

AN improved mold for the manufacture of rubber footwear, to which the illustration relates, has for its objects a product neater in appearance than the molded shoe as ordinarily made, and the avoidance of one cause of damaged goods. With the four-part mold used hitherto, the side molds being divided on the center line of the head of the shoe from heel to toe, there is usually formed upon the shoe a seam or rib of rubber, extending from the opening at the top of the shoe down across the instep. This not only detracts from the appearance of the shoe, but where these side molds join on the center line they are liable to pinch or crimp the lining of the shoes between the parts, causing damage to the product.

This invention provides for a five-part mold. In practice, a last, with the shoe made up on it, is placed in the machine, the



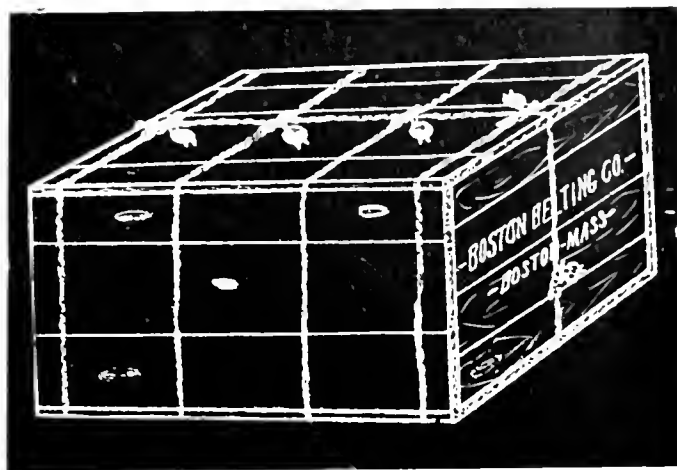
CLARK'S RUBBER FOOTWEAR MOLD.

last comprising one part of the mold. The second part is the instep mold, fixed stationary to the bed of the machine. The third and fourth parts are the side molds, which extend from the side of the shoe at a point to the rear of the instep back around the heel of the shoe. The sole mold, at the top of the machine, forms the fifth part. The heads or rims caused by the joining of the mold parts, instead of appearing at the front or across the instep portion of the shoe will be at the line of junction of the instep mold and the side mold and at the heel of the shoe.

The side molds are provided with heating chambers, so that they may be heated by steam, or otherwise, making of this a vulcanizing as well as a molding device. The inventor is Maurice C. Clark, of Providence, Rhode Island, to whom has been issued United States patent No. 842,850.

IMPROVED PACKING OF RUBBER.

THE high value of crude rubber, compared with its weight, has always afforded a special temptation to larceny on the part of those engaged in handling it. The aggregate of the losses which have been sustained by the trade on this account is very great. In addition, there have been losses due to defective packing. With a view to protecting the owners of rubber against loss from either of the reasons mentioned, Mr. James Forsyth Bennet, of the Boston Belting Co., has suggested the idea of strapping and sealing bales, boxes, cases and bags of rubber, as illustrated herewith, and since putting into effect this idea his company have suffered no inconvenience. The cost of strapping



packages in this way is very slight, and even if it were many times as much as it is, the end apparently would justify the means, for in the very many cases that have been received and shipped by them, all have arrived at their destination in good condition. In addition to their own satisfaction, they have been accorded much praise and many words of appreciation for the ingenious and careful method of packing. Four lines crossing the sides of the box in the illustration and the single line across the end represent a strong wire, and the white spots on the top show how the sealing is done. It would seem that this might serve as a suggestion to the buyers of crude rubber which they would gratefully accept and profit by, with results as gratifying as those derived by the originator of this packing system.

TIRE INTERESTS, HERE AND ABROAD.

AT the annual meeting of the Palmer Tyre Co., Limited (London) there was declared a dividend of 5 per cent, and the announcement was made that a substantial sum had been added to the reserve fund. The chairman also reported that a machine was about to be produced which would appreciably lessen the cost of production of the Palmer Cord tire.

It is rumored that his Majesty, King Edward VII, who was formerly advertised as being the user of various excellent automobile tires of English make, has become a convert to the use of the Continental tire. Whether he experimented personally and discovered that the Continental was the best does not appear. At any rate, one of his latest cars is fitted with them.

The Goodyear Tire and Rubber Co. (Akron, Ohio) are winning out exceedingly well with the use of their new rim for motor cycles, a difficult place to put any tire, or rather a type of vehicle from which it is difficult to detach and repair the ordinary tire.

An electric vulcanizer designed for repair men has been brought out by C. A. Schaler, of Wapun, Wisconsin.

The Sirdar Rubber Co., Limited, have received another repeat order from the British war office for Royal Sirdar Buffer tires.

The firm "Provodnik," of Riga, Russia, who have developed an important tire department in their extensive rubber works, are about to introduce their pneumatic and motor bus (solid) tires in the English market.

The K. F. Syndicate (London) are putting on the market a heavy tire designed to prevent side slip, the tread looking very much like an exaggerated Bailey tread, the huge rubber lozenges, however, being hollow and thus semi-pneumatic. The thought would be naturally that the wear on a tire of this type would be such that it would make it very expensive in use.

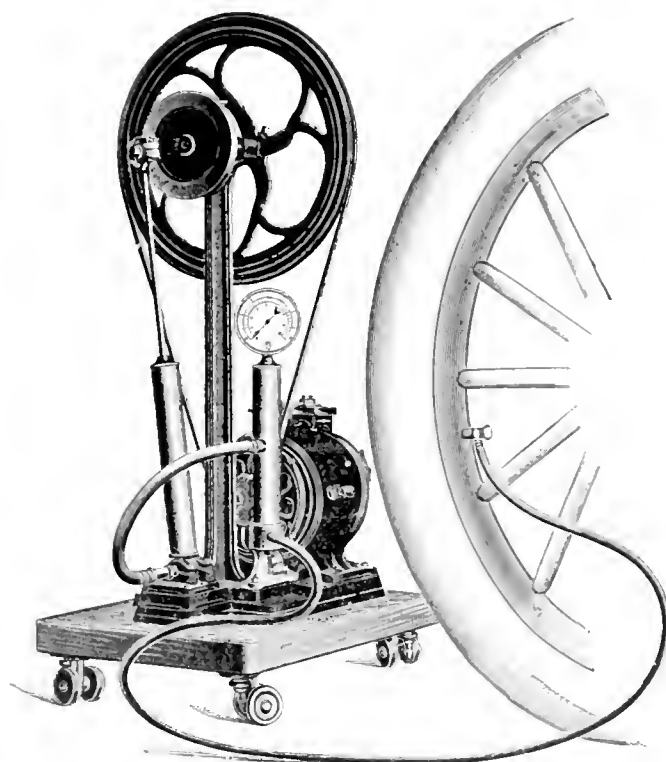
The Diamond Rubber Co. (Akron, Ohio) are offering to the trade, in addition to their ordinary lines of solid carriage tires, which, of course, are black or gray, a white tire. Not that it is as white as alabaster, but it is white, and as most rubber men know properly compounded white rubber is very tough and resilient and wears like iron.

The Philadelphia agency for Jenatz tires has been secured by Henry A. Rowan, Jr., No. 2028 Samson street. These tires, by the way, are new in the United States, but are made at Brussels under the supervision of Camille Jenatz, a well known European racing man.

The Kokomo Rubber Co. (Kokomo, Indiana) are out with a new cycle tire—the "New Oxford"—that is making very many friends.

Herz & Co. (No. 203 Lafayette street, New York) are importing a new pneumatic tire, made by the Wien-Traiskirchner Gummiwaren-Fabriken Josef Miskolczy & Co. (Vienna, Austria), which they market as the Herz Paragon. It has a specially constructed tread, the fabric on which lies in diagonally applied narrow sections.

The Morgan & Wright advertisements—white letters on black background—are so distinctive that they are recognized everywhere. Besides this, when they put in something like this—"Occasionally a rider will insist on having a cushion tire. We make them"—they are very readable. The "occasionally" tells the story.



"VICTOR" ELECTRICALLY OPERATED AIR COMPRESSOR, FOR INFLATING TIRES.

[Victor Electric Co., Chicago.]

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

TRENTON has another new rubber concern in the Standard Rubber Manufacturing and Supply Co., which was incorporated lately and has already commenced business. For the present it will be a selling company exclusively. The authorized capital is \$100,000, of which \$75,000 is common stock and \$25,000 cumulative 6 per cent preferred. The incorporators were Stephen C. Cook and Charles L. Conard, of Trenton; Ignatius Le Jambre, of Bordentown; and Albert A. Taylor, Jr., of Allentown, N. J. John M. Wright and A. Crozer Reeves, of Trenton, are stockholders. The concern was organized by electing Mr. Cook, president, Mr. Wright, secretary, and Mr. Reeves, treasurer. It controls several patents and will handle a line of specialties, one of which will be rubber blankets for newspaper presses.

This company succeeds the Standard Rubber Co., also of Trenton, for which a receiver has been appointed. The new company, however, has no connection whatever with the old Standard. Carroll Robbins, of Trenton, has been made receiver for the latter concern, and its affairs will be wound up. James D. Brady, of Trenton, was one of the moving spirits in and president of the old Standard. It is understood its financial troubles were due to his identification with the Consolidated Supply Co., of Syracuse, New York, which, it is said, is also bankrupt.

* * *

THE Atlas Rubber Co., of Trenton, was incorporated under the New Jersey laws on March 9. The incorporators are State Senator Barton B. Hutchinson, Harry R. Wilson, and Rachel Summer, all of Trenton. The authorized capital is \$125,000. The charter says the object of the company is the manufacture and sale of rubber goods. Representatives of the new corporation state that they are not yet ready to announce their plans. It is learned, however, that the erection of a factory in Trenton is planned. It is said that aside from Senator Hutchinson the incorporators named appear only as representatives of other interests. It is understood that J. Oliver Thorp, superintendent of the United and Globe Rubber Manufacturing Cos., of Trenton, and Malcolm Salter, assistant superintendent of the same company, will be identified with the new company.

Clifford H. Oakley, secretary and general factory manager of the Ajax-Grieb Rubber Co., has resigned his position. He is succeeded by Louis Detribats, formerly of New York, and who has been with the Ajax-Grieb company since the consolidation of the two concerns a few months ago. Mr. Oakley had been with the Grieb company seven years. He has not made public his future plans except that he will incidentally and in connection with W. F. Bambridge, formerly New England sales agent of the Grieb company, continue the manufacture and sale of rubber specialties for the shoe trade, operating as the Essex Rubber Co., with headquarters in Trenton.

The Automobile Wheel and Rim Co., the registered office of which is in Jersey City, has filed a certificate with the secretary of state at Trenton amending its charter by increasing its authorized capital stock to \$500,000.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE large new permanent store of the Gorham Rubber Co. is assuming substantial proportions and within two months will be occupied by the company. It is a five story and basement building, located at Nos. 20-30 Fremont street, where a full line of belting, packing, and hose, tires, druggists' sundries, and footwear will be carried. Negotiations are now under way for the sale of the store in Oakland, because as soon as the San Francisco building is completed the company's business will be concentrated under one roof.

Mr. C. Kirkpatrick, of the Gorham Rubber Co., representing The B. F. Goodrich Co. here, states that business in the rubber line continues to increase so that it has been nearly double what it was last year at the same time. It seems that as fast as one demand is supplied new demands spring up and the demand from the old sources increase. San Francisco is a city of new enterprises and new life and activity and there is a call for rubber products such as has never before been known. The most remarkable business is being done in the rubber sundries line, the manufacturers having been unable to supply the demands of the trade. Next in importance of the high paying products have been automobile tires.

The Sterling Rubber Co.'s traveling salesmen are sending in good orders, and the management reports that business in all lines is good. They say that stocks are coming in now in better shape from the railroads, which is making conditions much pleasant for the trade.

The Harris Rubber and Supply Co., a new concern, in a new store at Polk and Turk streets, has been doing a good business from the start. It is a general rubber supply house with a complete vulcanizing plant. They are the uptown agents for the Goodrich tires in San Francisco.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

THE shareholders of the Diamond Rubber Co. met recently to complete arrangements for the increase of the company's capitalization from \$3,500,000 to \$4,000,000. At another meeting, to be held April 16, the capitalization will be raised again to \$5,000,000. The directors decided upon this course about two months ago.

Members of the Diamond Rubber Co. have acquired practically all of the \$110,000 of capital stock issued thus far by the Bryant Steel Wheel and Rim Co., of Columbus, Ohio. The Bryant company make the Marsh rim, for which the Diamond company have been sole selling agents, and which has been constructed especially for use with the Diamond detachable automobile tires.

The Faultless Rubber Co. have about completed the removal of their factory equipment to the new factory at Ashland, which is expected to be in operation by April 1. The company's employees were taken to Ashland recently in two special trains, to give them an opportunity to look the town over, and about 50 of them, it is understood, will go to Ashland to live, taking their families. An Ashland manufacturer has become a large shareholder in the company, acquiring the shares of a former director who opposed the change of location.

The Star Rubber Co., the incorporation of which was reported in these notes last month, have begun the erection of an extensive factory building in South Akron, with a view to making a line of goods similar to that of the Faultless Rubber Co. Thus the number of Akron's rubber factories will not be lessened.

It is estimated that five-eighths of all the automobiles exhibited at this season's automobile shows in the United States are equipped with tires made in Akron. The local tire manufacturers made regular exhibits only at the national shows, but their tires have been in evidence at all the local shows, such, for instance, as that held at Cleveland during March.

The Miller Rubber Co. offered for sale recently \$50,000 each in preferred and common stock, all of which was taken promptly by local capitalists. Within the past few years a marked change has come over the attitude of Akron investors in regard to the rubber industry, and they now buy readily every share of stock of the leading companies that happens to be available.

Mr. Joseph W. Kelly has resigned as manager of the specialty sales department of The B. F. Goodrich Co., after having been in the Akron rubber business for 25 years, to devote the remainder of his life to the advocacy of municipal ownership.

News of the American Rubber Trade.

RUBBER GOODS—ANNUAL MEETING

THE eighth annual meeting of the shareholders of the Rubber Goods Manufacturing Co., incorporated under the laws of New Jersey, is due to be held at the registered offices of the company in that state, No. 60 Grand street, Jersey City, on Wednesday, April 10.

At the last regular meeting of directors of the Rubber Goods Manufacturing Co. it was decided to discontinue the payment of dividends on the common stock, in view of the arrangements pending for the liquidation of the company. On October 15, 1906, a semi-annual dividend of 1 per cent. was paid, after a cessation of dividends on the common stock since the end of 1901. Had the directors decided to continue dividends, another declaration would have been made during the past month.

COMPLETE OFFICE BUILDING PLANNED.

THE Boston Woven Hose and Rubber Co. are working on the detailed plans of what is designed to be a very complete administration building, to be located opposite their factory at Cambridge. Besides ample office accommodations and every facility for the transaction of business, this building will contain an assembly hall, dining rooms and recreation rooms. Mr. John O. DeWolfe, who for several years was associated with this company, is the architect.

BAUMANN RUBBER CO.—INCREASE OF CAPITAL.

THE Baumann Rubber Co. (New Haven) have filed a certificate with the secretary of state of Connecticut of increase of their capital stock from the nominal figure of \$10,000 to \$100,000. They have added to their plant lately a new washer, mill and calender, from the Farrel Foundry, and some new presses and vulcanizers, and are planning to make theirs an exceptionally well equipped plant. Their specialties are balls and toys. The New York address of the company is now No. 79 Fifth avenue.

TRENTON'S NEW TIRE COMPANY.

THE Empire Automobile Tire Co., the new Trenton concern, are preparing to market a tire of the clincher type, with a raised tread, and also inner tubes made by a special process, and tire sundries. The president is Charles H. Semple, mentioned in the last INDIA RUBBER WORLD as having resigned a long time connection with the G & J Tire Co. to accept the position. The treasurer is General C. Edward Murray, the principal shareholder in the Empire Rubber Manufacturing Co. and the Crescent Belting and Packing Co. The secretary is A. Boyd Cornell, also secretary of the Empire rubber company. The sales will be in charge of W. G. Whitlock, for some years past with the G & J company. The tires will be made at the Empire rubber company's plant.

FACTORY ENLARGEMENT AT PERTH AMBOY.

THE Standard Underground Cable Co. (Pittsburgh, Pennsylvania) have added lately to the holdings of land at Perth Amboy, New Jersey, where one of their manufacturing plants is located, including their rubber factory. For the past 11 years the Standard company have had quite a large rubber covered wire department in connection with their other cable business, and in this department they have always mixed their own rubber compounds. It is now proposed to extend the Perth Amboy plant, with a view to enlarging the rubber covered wire and some other departments.

FACTORY ENLARGED AT WALPOLE.

THE Massachusetts Chemical Co. (Walpole, Massachusetts), owing to the increase of their business in the manufacture of insulating and waterproofing compounds, insulating tapes and

the like, have been obliged to enlarge addition to their factory, which has been equipped with the best of modern rubber machinery, and which practically doubles the capacity of the plant. They are, therefore, enabled to handle orders much more promptly than for some time past.

A NEW INSULATED WIRE PLANT.

THE Bay State Insulated Wire and Cable Co. has been organized for the manufacture of rubber insulated wires and cables at Hyde Park, Massachusetts. The company is to be incorporated under the laws of Massachusetts, with \$250,000 capital. The president of the company is Andrew J. Conlin, who has long been engaged in the insulated wire trade, and latterly with the Morss Simplex Electrical Co. The treasurer and manager is John H. McNamee, late mayor of Cambridge, Mass., who is a successful business man. The company has secured the well-equipped plant constructed and long occupied by S. Klous & Co. (Boston Gossamer Rubber Co.), who were large manufacturers of waterproof clothing and went out of business in 1903, owing to the ill health of the senior Mr. Klous. The location is at River Street station, on the New York and New England Railroad, just outside the limits of Boston.

RUBBER FACTORY FOR SALE.

THE factory and business of the Davidson Rubber Co., manufacturers of druggists' and stationers' sundries, at East Somerville, Massachusetts, are offered for sale. This measure has been decided upon in connection with the settlement of the estate of the late Rhodes Lockwood, president and treasurer of the company, who died in 1905, and who was the principal owner of the business.

HARTFORD RUBBER WORKS CO.—NEW OFFICERS.

A NUMBER of changes in the official list of the Hartford Rubber Works Co. was made at a meeting of the directors on March 8. Thomas Midgley has resigned as president, in order to devote more time to the Midgley Manufacturing Co. (Columbus, Ohio), makers of the rims used by Rubber Goods Manufacturing Co., who now control the Columbus concern. Mr. Midgley retains his connection with the tire industry, however, as general consulting engineer for the Hartford and G & J companies and Morgan & Wright a new position created for him. The new president is Justus D. Anderson, a former official of the Hartford Rubber Works Co., who recently became president of the G & J Tire Co., which position he will also retain. James W. Gilson, the secretary and treasurer of the Hartford company, having resigned to join an old friend in the Mitchell Motor Car Co. (Racine, Wisconsin), Henry Plow has been elected treasurer and assistant secretary, and E. R. Benson secretary and assistant treasurer. V. B. Lang, vice president of the company, has taken the additional title of general manager.

MR. DRESSER OUT OF BANKRUPTCY.

A DISCHARGE in bankruptcy was granted in the United States district court in New York on March 5 in the matter of Dresser & Co., commission merchants in hosiery, silks and elastic webbing, adjudicated bankrupts July 9, 1903. One result of the failure of the firm, caused by its complications with the United States Shipbuilding Co. was the enforced sale, in December, 1903, of the plant of the American Tubing and Webbing Co. (Providence, Rhode Island), in which Daniel Le Roy Dresser was a large shareholder. Mr. Dresser states that at the time of the failure Dresser & Co. owed \$1,400,000, and the estate has paid over \$1,000,000. The discharge in bankruptcy was influenced by a petition signed by the firm's creditors. The business of the firm has been continued by the receiver, at No. 71 Franklin street, New York, and Mr. Dresser now resumes control.

NEW INCORPORATIONS.

GOODYEAR'S Rubber Manufacturing Co., February 19, 1907, under the laws of Connecticut, to manufacture and deal in all kinds of india-rubber goods; capital, \$25,000. Incorporators: John J. Watson, Jr., Chutjan Van Vliet, Samuel Norris, Homer E. Sawyer and John D. Carberry. Principal office at Naugatuck, Conn.

Morgan Rubber Co., March 2, 1907, under the laws of Illinois, to make and deal in rubber goods; capital, \$75,000. Incorporators: A. A. Worsley, C. P. Kelly and G. P. Sayers. Principal office in Chicago.

Atlas Rubber Co., March 1, 1907, under the laws of New Jersey, to make and deal in rubber goods; capital, \$125,000. Incorporators: R. B. Hutchinson, H. R. Wilson and R. Summer. Principal office at Trenton, N. J.

I. B. Kleinert Rubber Co., February 28, 1907, under the laws of New York state; capital, \$1,800,000. To absorb the business of a West Virginia corporation of the same name capitalized at \$150,000, with a bond issue of like amount. The Kleinert company are the largest manufacturers of dress shields in the world. Some account of the business, founded by Mr. Kleinert about 28 years ago, appeared in THE INDIA RUBBER WORLD September 1, 1905 (page 491). The officers of the company are Isaac B. Kleinert, president; Victor Guinzberg, vice president and secretary, and H. A. Guinzberg, treasurer. Principal office, No. 725 Broadway, New York.

The Bowly Auto Pneumatic Tire Co., March 11, 1907, under the laws of New Jersey, to make and deal in rubber vehicle tires; capital authorized, \$100,000. Incorporators: William W. Gooch, James B. Mackie, Ralph B. Crummy, Frederick C. Schofield and John R. Turner. Registered agent and office: Corporation Trust Co., No. 15 Exchange place, Jersey City, N. J.

Michelin Tire Co., March 12, 1907, under the New Jersey laws; capital, \$3,000,000. Incorporators: Lorenzo Semple, No. 30 West Eleventh street, New York; John P. Murray, No. 61 Lembeck avenue, Jersey City, N. J.; James E. Hopkins, No. 71 Broadway, New York. It is understood to be the intention of Michelin et Cie., of Clermont-Ferrand, France, to engage in the manufacture of pneumatic tires in the United States.

WORCESTER RUBBER CO.

THE newly incorporated Worcester Rubber Co. (Worcester, Massachusetts) succeeds to the business of Albert H. Bloss, who has become president of the company. The business becomes part of the Crocker Syndicate, Mr. Isaac Crocker being treasurer of the company. This house was established in June, 1877, by the late J. Francis Hayward, who conducted it under the style Worcester Rubber Co. In 1891 the interest of Mr. Hayward was bought by Colonel Aaron S. Taft, who had been manager of the store, and upon Mr. Taft's death, in 1894, Mr. Bloss succeeded in control. This, it is believed, is the third oldest rubber house in New England without change of name.

LOSSES BY FIRE.

THE extensive buildings of the Hardman Rubber Co. (Belleville, New Jersey) were destroyed by fire on March 1, causing a heavy loss, though it is understood that the property was well insured. In addition to the Hardman company, losses were sustained by the Mattson Rubber Co. and the Imperial Rubber Works, whose manufacturing has been done at Belleville since the fire which destroyed their plants at No. 26 West Broadway, New York, on March 12, 1906. One of the buildings destroyed also contained the factory of the Kornit Manufacturing Co., who are making a substitute for hard rubber from the hoofs of cattle.

The Central Rubber Co., Chicago representatives of the National India Rubber Co., and dealers in rubber goods generally, were damaged by fire on March 3. The building, No. 84 Lake street, occupied by the company, was somewhat damaged, particularly by water, but the interruption of business was slight. The adjoining building, No. 82 Lake street, the upper stories of which the rubber company occupied for storage, fared worse.

The stock of goods was practically destroyed, but was fully covered by insurance.

A fire in the factory of the Hyde Park Rubber Co. (Hyde Park, Massachusetts) on March 13 is reported to have damaged stock to the amount of \$5,000 and injured the building slightly.

Regarding a fire at the rubber reclaiming plant of the New Jersey Rubber Co. (Lambertville, New Jersey) on March 4, THE INDIA RUBBER WORLD is advised that the damage did not exceed \$1,500, and this was fully covered by insurance. The principal loss was on stock, and the factory was closed only 2½ days.

THE TRADE IN CANADA.

The Merchants' Rubber Co. Limited (Berlin, Ontario) have had plans drawn for an important extension of their plant, and have placed orders for steam boilers to double their present outfit. The new directors of the company are E. B. Nesbitt, D. Lorne McGibbon, F. W. Ward, A. J. Kimmell, and T. H. Rieder. Mr. Kimmell has made a success of the Elmira Felt Boot Co., at Elmira, near Berlin.

Mr. J. C. Nicholson, who has been in the employ of the Canadian Rubber Co., of Montreal, Limited, for a number of years, has been made manager of the general rubber goods division of the company, at the home office.

It is reported that a new rubber factory is to be erected at Berlin, Ontario. The *News Record* of that town says that an option has been obtained on land suitable for a site, and that plans are under way for a concrete factory building, with equipment for a capacity of 5,000 pairs of rubber shoes per day.

L. Higgins & Co. have obtained the agency in the Canadian maritime provinces for the Robinson & Lindsay Rubber Co. (Toronto), and have become established at No. 166 Granville street, Halifax, Nova Scotia. Messrs. Higgins have been selling agents for some years of the "Maple Leaf" brand of rubbers, and will add the sale of the leather footwear distributed by the Robinson & Lindsay Co.

Boomer & Boschert Press Co. (Syracuse, New York), whose rubber presses are used in so many rubber factories, have established a factory at Montreal, which will be operated under the style Canadian Boomer & Boschert Press Co., Limited.

TRADE NEWS NOTES.

THE Boston Woven Hose and Rubber Co. paid the usual semi-annual dividend of \$4 per share on the common stock on March 15, to holders of record on March 5.

The National India Rubber Co. (Bristol, Rhode Island) have increased their output of hose from 12,000 feet to 15,000 feet per day.

The Globe Mills Rubber Co. (Lawrence, Massachusetts) are turning out an attractive line of footwear. They have an excellently located plant and own valuable water privileges and have a capacity of 15,000 pairs daily.

The B. & R. Rubber Co. (North Brookfield, Massachusetts) will soon add tubing to their line of products.

The New England Rubber Manufacturing Co. (Hyde Park, Massachusetts), occupying the plant before used by the Maderia Rubber Co., are doing a good business in making rubber heels and toilet specialties. Mr. A. A. McLaren is in charge of the management.

Mr. James R. Ross, of Jamestown, New York, has resigned the presidency of the Niagara Rubber Co. (Lockport, New York) on account of ill health, being succeeded by the Hon. Patrick F. King, an attorney of Niagara Falls.

The Simplex Electrical Co. (Boston) have awarded a contract for a four-story machine shop, of reinforced concrete, 100 x 110 feet, as an addition to their factory at Cambridge, Massachusetts.

The Hartford Rubber Works Co. have instituted an action in the United States Circuit Court for the southern district of New York, alleging infringement of the Dunlop tire patent by the Goodyear Tire and Rubber Co. and the Firestone Tire and Rubber Co. The patent involved is No. 488,492, issued December 23, 1892.

COTTON DUCK PROFITS.

THE annual report of the Consolidated Cotton Duck Co. for 1906 shows gross income from sales of \$9,941,151.29, against \$9,268,871.94 for 1905. Net earnings were \$1,301,881.39, against \$917,172.08 for 1905. The report covers the first full year since the merger of the United States Cotton Duck Corporation (which has now ceased to exist) and the Mount Vernon-Woodberry Cotton Duck Co. An important event during the year was the acquisition of the entire capital stock of the J. Spencer Turner Co. (New York), which house has become the sole distributing agency of the Consolidated Cotton Duck Co., to the great advantage of the latter. The duck company own 20 mills in six States and Canada and Nova Scotia. There are 7,500 operatives and 55,000,000 pounds of raw cotton were consumed last year. The valuation of properties is reported at approximately \$18,000,000. The earnings for 1906, after providing for the 6 per cent. on the preferred stock (\$6,000,000) left a surplus equal to nearly 8 per cent. on the common stock (\$7,000,000).

The regular semi-annual dividend on the preferred shares of 3 per cent. is payable on April 1.

WALTER K. FREEMAN SENTENCED.

IN the New York court of general sessions, Part 1, on March 15, Judge Rosalsky imposed a sentence upon Walter K. Freeman, who had been found guilty of grand larceny in the first degree, on trial before Judge Rosalsky and a jury, confining him for a term of three years in State's prison. The attorneys for the defendant moved for a new trial, and, pending decision by the court, Freeman was remanded to the city prison. In the latter part of 1904 a contract was entered into between Parke, Davis & Co., manufacturing chemists, and Freeman in relation to the manufacture of camphor synthetically by a process which Freeman claimed to be developing. It was agreed that Freeman should receive \$15,000 for experimental purposes within a period of one year. At the expiration of that time, no results having been obtained, Parke, Davis & Co. commenced a civil action against Freeman to compel an accounting for the moneys turned over to him. It developed that one particular item of \$2,400 alleged by Freeman to have been paid by him for platinum had not been expended for such purpose, and that while this contract was in effect Freeman was collecting money from other firms on similar terms. Parke, Davis & Co. thereupon laid the matter before the district attorney for New York county, who caused Freeman to be arrested for grand larceny. He was indicted on this charge in August, 1906, and tried before Judge Rosalsky in January last, with the result above named.

Considerable space was devoted to Freeman in THE INDIA RUBBER WORLD, January 1, 1903 (page 121), at which time he was reported to have secured considerable sums from persons in the rubber trade, but more largely from persons not in the trade, to aid him in the manufacture of a process rubber or substitute from a secret formula. Freeman was understood to have been the leading spirit in the so-called American Crude Rubber Co., incorporated August 22, 1902, under New Jersey laws, with an authorized capital of \$2,000,000, which company purported to have for its object the manufacture of the substitute referred to.

WASTE RUBBER THAT IS DUTIABLE.

AN importation of waste rubber at New York included some new cuttings, which the collector decided did not come under the provisions of paragraph 570 of the Tariff act, relating to "old scrap or refuse india-rubber, which has been worn out by use and is fit only for remanufacture." The remainder of the consignment was old scrap rubber, such as is admitted free of duty, but the collector held that the same was on the importer to show what proportion of the goods are free and what dutiable, and a duty of 10 per cent. was assessed on the whole as materials not enumerated in the act. This action was confirmed by the general appraisers at New York. This is not the first time that the ques-

tion of assessing a duty on imported new cuttings of rubber has been considered. THE INDIA RUBBER WORLD is informed by some of the importers that they have paid duties on such material, and at the office of the collector of the port at New York it is stated that the practice here has been uniformly to assess 10 per cent. *ad valorem* on such goods, under paragraph 463 of the Tariff act, the appraisers having rendered at least four decisions sustaining this course prior to the one above mentioned.

RUBBER FOOTWEAR PRICES IN CANADA.

NEW lists on rubber footwear were issued by the Canadian manufacturers on March 4, eight days earlier than last year. Prices are somewhat higher than in the past season. Men's plain oxfords are listed 5 cents per pair higher; men's boots from 5 to 25 cents higher; lumbermen's 5 to 10 cents, and so on. The advance in women's footwear is less marked, and in a number of items no change is made. The discount to retailers is 15.03 per cent., against 20 per cent. last year and 17 per cent. in the year before that. A special discount of 5 per cent. is allowed on orders placed before May 1, and shipped before November 1, 1907. A similar discount for early orders was allowed last year. Besides these discounts, and the customary discounts for cash, the manufacturers allow a bonus rebate, to be governed by the volume of orders given by the purchaser during the season.

BOSTON AUTOMOBILE SHOW.

THE fifth annual Boston Automobile and Power Boat Show (March 9-16) was held under the auspices of the Boston Automobile Dealers' Association, Inc., and as last year under the management of Mr. Chester I. Campbell. It was successful in every way, the large attendance indicating the appreciation by New Englanders of an opportunity of acquainting themselves with automobile progress and making purchases nearer than New York. There were 342 exhibitors of automobiles and accessories listed, and the number of cars shown was greater than at either of the two New York shows or that at Chicago. For the most part the tire manufacturers have decided to exhibit only at New York and Chicago—at the so-called "national" shows—but the tire feature at Boston was by no means lacking in interest. Among the exhibitors of tires or rims were The Republic Rubber Co., Pennsylvania Rubber Co., Voorhees Rubber Manufacturing Co., Dow Tire Co., Trident Tire Co., Burmester Rubber Co., The Emis-Ruff Tire Co., Hopewell Brothers, Healy Leather Tire Co., The Crescent Parts Co., Presto Detachable Rim.

CHICAGO VULCANIZING CO.

THE Chicago Vulcanizing Co. (No. 1401 Michigan avenue, Chicago) are an incorporated concern engaged in the repair and sale of all makes of automobile tires; in addition they are the western selling agents for the Harburg tire, made by the Vereinigte Gummiwaren-Fabriken Harburg-Wien, of Germany. This agency was secured at the time of the Chicago automobile show, when the Electric line, which they had carried for the previous year, was dropped. John W. Benton, lately with the Goodyear Tire and Rubber Co. (Akron, Ohio), has recently become vice president. H. W. Terriere is president and John Boss superintendent.

OPENING OF THE SALEM RUBBER CO.

THE Salem Rubber Co. (Salem, Massachusetts), the incorporation of which was reported in the last INDIA RUBBER WORLD, have begun business. The formal opening of their store, at No. 150 Essex street, on March 16, was largely attended. It is the first exclusively rubber store in Salem and contains a wholesale and retail stock of rubber goods generally. As mentioned already, this is one of the Crocker Syndicate stores, under the general management of Mr. Isaac Crocker, of Providence, Rhode Island.

TRADE NEWS NOTES.

MESSRS. FRED W. WORK and B. F. MAXSON, of the B. F. Goodrich Co. (Akron, Ohio) plan to leave New York on May 1 for a transcontinental trip in a 40 hp. Oldsmobile, returning to New York by the same way after a short sojourn on the Pacific coast.

Goldsberg & Rathman (Boston) are importing considerable waste rubber. Their imports recently embraced a shipment from Bermuda.

The annual meeting of shareholders of the Consolidated Rubber Tire Co. will be held on May 6 at the registered offices of the company at Jersey City, New Jersey. It is understood that the report to be submitted by the directors on the business during 1906 will show an important increase in the amount of gross sales and in net earnings.

The shares of the American Can Co. have been listed on the New York Stock Exchange.

One of the largest orders for pneumatic tires yet placed with any factory is that received by the Ajax-Grieb Rubber Co. (New York and Trenton) for 5,000 sets of tires, from the Ford Motor Co., for use on four-cylinder runabouts. Delivery is to be completed before August 1 next.

The B. F. Goodrich Co. (Akron, Ohio) are receiving good reports on the results from their "Tough Tread" tires, the merit of which is due to the fact that the tread is not a cemented strip liable to peel and separate from the body of the tire, but is made of a specially tough rubber which is an integral part of the tire.

A card headed "Resolutions for 1907, for Automobilists and Others"—good resolutions, by the way—is being distributed by Morgan & Wright (Detroit, Michigan) with a suggestion that it be hung up where it can be seen.

The Firestone Tire and Rubber Co. (Akron, Ohio) have established a very complete tire repair plant, including a vulcanizer with a capacity for 40 tires, in connection with their branch office at No. 233 West Fifty-eighth street, New York. They have also established a branch at Pittsburgh, Pennsylvania, in charge of C. E. Jackson.

The Stoughton Rubber Co. (Stoughton, Massachusetts) have been sued for \$25,000 by Patrick I. Beagin, who claims to have sustained personal injuries by being burned through an explosion of gasoline while employed as night watchman at the company's factory.

The Manhattan Rubber Manufacturing Co. have endowed a bed permanently in the General Hospital at Passaic, New Jersey, for the use of any persons who may be injured in their factory or become ill while at work there. Whenever not occupied for such purpose the bed will be at the disposal of the hospital.

The store at Meriden, Connecticut, of the Alling Rubber Co. (New Haven) has been closed, owing to the ill health of Mr. N. E. Alling, forcing him to curtail his business activities. The stock was taken over by the other stores in the syndicate.

The Keasbey & Mattison Co. (Ambler, Pennsylvania), large manufacturers of asbestos goods, in connection with some of which rubber is used, have established a branch house at Omaha, Nebraska, making 15 branches now operated by the company.

The directors of the Waterbury Co., of New York, insulated wire manufacturers, have declared the regular quarterly dividend of 2½ per cent. on the preferred shares and 1 per cent. on the common shares, payable April 1.

William Sanford, Jr. & Co., No. 903 North Broad street, Philadelphia, have taken the representation in that city of the tires made by Torrillon et Cie., at Clermont-Ferrand, France.

The manufacture and sale of the high resistance materials for packings, developed by Fred M. Eckert [see THE INDIA RUBBER WORLD, January 1, 1907—page 130], have been taken on by The B. F. Goodrich Co. (Akron, Ohio). This arrangement takes the place of the incorporation of a company at one time projected by Mr. Eckert.

TRADE NEWS NOTES.

THE coroner's jury which inquired into the death of an employe of a St. Louis rubber cement company returned a verdict of accidental death, but condemned the manufacture of rubber cement within the city limits, "even with the strictest compliance with the law," as "extremely hazardous to life and property."

Mr. D. G. Armstrong, manager of The Household Rubber Co., dealers in hard and soft rubber goods (Youngstown, Ohio), has perfected a line of canvas soles, as a substitute for leather soles, for the use of steel and iron workers. The same material has been found a satisfactory substitute for the cuffs and aprons used by the same class of workers, and for the leather pads used in connection with horseshoers.

The value of lime in rubber compounding for the absorption of moisture and prevention of blistering has been known for many years. It is interesting, therefore, in this connection to note that Mr. William H. Scheel (New York) has brought out two grades of lime, which stocks are already largely used in the rubber trade, being sold under the names, "Lime Flour" and "Hydro Calcine."

The Hope Webbing Co. (Pawtucket, Rhode Island,) are installing a complete slasher ventilating apparatus, consisting of steel plate fan, piping, hoods, etc., furnished by the B. F. Sturtevant Co., of Boston.

The Pittsburgh Rubber Supply Co. have enlarged their sphere of action by opening a western office which is located at No. 225 Dearborn street, Chicago.

O. C. Pike, No. 128 West South street, Akron, Ohio, is conducting a jobbing business in druggists' sundries and other rubber specialties, the goods he handles being of Akron manufacture.

The Dryden Rubber Tire Co. (No. 447 Wabash avenue, Chicago) will act as agents for the Republic Rubber Co.'s tires, and conduct a tire repair shop.

Following the election of State Treasurer Frank O. Briggs as United States senator, there has been launched for Quartermaster General Murray a boom for the Republican nomination for governor of New Jersey next fall. Senator-elect Briggs was looked upon as a probable candidate in all sections of the state. General Murray is also mentioned as a candidate for the chairmanship of the Republican state committee if the duties of Mr. Briggs as United States senator should make it necessary for him to resign that office.

The officers of the Utica Rubber Co. (Utica, New York), the incorporation of which was reported in these pages last month, are: E. B. Pearson, president and treasurer; G. E. Vanderbilt, assistant treasurer; Charles W. Barnes, secretary. Mr. Pearson will divide his time between the new company and the Tremont Rubber Co. (Boston), spending part of every week in each city.

Mr. C. E. Little is now in charge of the office and store of The Beacon Falls Rubber Shoe Co., of New York, at No. 106 Duane street, Mr. La Vete C. Warner having retired from that position on account of ill health. Mr. Little was with the Beacon Falls company at the start, though not since continuously connected with them.

American Chiclé shares during 1906 were quoted as follows: Preferred—Highest, 201; lowest, 158; closing, 193 bid, 200 asked. Common—Highest, 110; lowest, 100; closing, 100 bid, 110 asked.

The Apsley Rubber Co. (Hudson, Massachusetts) are sending out desk calendars that are very dainty and practical. A background of crystalloid sets off a view of the factories of the company, while silver corners outline the calendar pad and tip the crystalloid center.

The Meyer Rubber Co. have sent out to the trade an advertising card which is very interesting, because of the optical illusion that it illustrates. It is a green card with white lettering, and while the lettering is perfectly flat, it is so printed and shaded that one looking at the card would feel sure that the letters bulged out in the middle a very considerable distance from the background.

NEW ENGLAND RUBBER CLUB.

THE annual election of officers of the New England Rubber Club will occur on the evening of April 15, at the American House, in Boston, on which occasion there will be a "smoker" and vaudeville entertainment. The Club has been admitted to membership in the Massachusetts State Board of Trade [See THE INDIA RUBBER WORLD, March 1, 1907, page 186], and will be represented in the latter by three delegates: Alexander M. Paul, Arthur W. Steedman, and William H. Gleason. Of these, Mr. Paul has been elected a vice president of the Board of Trade.

THE UNITED STATES-CUBA CABLE.

THE Commercial Cable Co. of Cuba, incorporated under the laws of New York in September last, have awarded a contract to the India Rubber, Gutta Percha and Telegraph Works Co., Limited (London), to build a cable to connect Key West, Florida, with Cuba. The cable is to be in operation by September, 1907, and the work of manufacture is in progress. The cable company is affiliated with the Commercial Cable Co. (New York) and will land in Cuba under a concession from the government of that island dating from January 10, 1907.

ALLEGED INFRINGEMENT OF THE GRANT PATENT.

A motion for a preliminary injunction in the suit of the Consolidated Rubber Tire Co. v. Sweet Tire and Rubber Co. (Batavia, New York) was argued recently before Judge Hazel in the United States district court at Buffalo. It is alleged that the defendant company have infringed the Grant patent for solid rubber tires, owned by the plaintiffs. It is understood that the plaintiffs are willing to discontinue the action if the defendants will recognize the patent and take "out a license for manufacturing under it." The defendants' counsel asked for time to decide whether to defend the suit or accept the above offer, and the court allowed two weeks for this purpose.

PENNSYLVANIA RUBBER CO.

MR. FRANK A. WILCOX has resigned as vice president of the Pennsylvania Rubber Co. (Jeannette, Pa.), but retains his interest and is still a director, though now taking no active interest in the management. The officers at present are: Herbert DuPuy, president; H. Wilfred DuPuy, vice president and treasurer; G. W. Shiveley, secretary; Wilbur Dunbar, general superintendent. Roger B. McMullen (No. 1241 Michigan avenue, Chicago) has been appointed general sales agent for the company's automobile tires. He was lately manager for the American Motor Car Manufacturers' Association, and for years a large jobber of bicycle parts.

UNITED STATES RUBBER CO. SHARES.

SALES of shares of the United States Rubber Co. on the New York Stock Exchange during the week ended March 23 were as follows:

	Sales.	Highest.	Lowest.
Common stock	4170	47 ¹ / ₂	43 ¹ / ₂
First preferred	2110	105	100
Second preferred.....	1410	76	71 ¹ / ₈

The closing prices for the week were the lowest since January 1. The highest prices for the year have been: Common, 52¹/₂; first preferred, 109⁷/₈; second preferred, 78¹/₈.

FACTORY EXTENSION AT TORONTO.

THE Dunlop Tire and Rubber Goods Co. (Toronto, Ontario) have in course of erection in addition to their present plant a two-story reinforced concrete building, 200 x 60 feet, which will be devoted to the manufacture of mechanical rubber goods. The ground floor will be used for the manufacture of belting, matting, mats, and packing, and all sorts of molded specialties. The top floor will be used for making hose, and the very latest modern hose machinery will be installed, including weaving machines for jackets for cotton rubber lined fire and mill hose. The hose machinery for making rubber covered hose will be especially adapted for making a large amount of goods daily. Although

the present new Dunlop factory is doing pretty well, a little over a year, it has already been found necessary to install new calenders, grinders, and rubber washers, as well as to double its floor area.

MICHELIN TIRES IN AMERICA.

THE recent visit to the United States of M. Edouard Michelin, one of the proprietors of the important rubber works at Clermont Ferrand, France, was in relation to establishing the manufacture of the Michelin pneumatic tires in this country. Before starting home M. Michelin, at a dinner he gave to some friends in New York, stated: "We came to the United States because, notwithstanding the fact that we have to pay an enormous duty, we sell here a large quantity of tires. Our own representatives in this country sold last year over 16,000 tires, and contracts made by them for 1907 amount to over 200,000 tires."

During M. Michelin's visit the Michelin Tire Co. was incorporated under the laws of New Jersey, with \$3,000,000 capital authorized, and negotiations were begun for acquiring a manufacturing plant. Such negotiations have been opened, particularly with the International A. & V. Tire Co. (Milltown, New Jersey), but at the date of this publication nothing has been concluded.

A NOTABLE JOURNALISTIC SUCCESS.

THE Boston *Boot and Shoe Recorder*, known wherever footwear is made or sold, whether rubber shoes or otherwise, will celebrate, with the issue of April 3, the twenty-fifth anniversary of its consecutive and successful publication. The *Recorder* has been in the front rank of progress in trade journalism for the past quarter century, contributing not a little to the maintenance of the high standard which characterizes American class or special journals. There were few trade papers when Mr. W. L. Terhune started the *Recorder*, so that he has been a pioneer in many respects in the development of this class of journalism to the important place which it now occupies, together with Mr. Charles H. McDermott, who has been in editorial charge for the past 23 years, Mr. Terhune taking care of the business department. The staff of the paper meanwhile has become large, but space will be given here only to the name of Mr. G. E. B. Putnam, editor of *The Recorder's* rubber trade and other special departments, and whose work has given him an extensive acquaintance in the rubber trade. The paper was the first published in the interest of the shoe retailer, but the scope has been enlarged until it serves in an important way the manufacturing interest as well, and has been the means of developing and widening the footwear trade as a whole.

TRADE NEWS NOTES.

THE Faultless Rubber Co. have removed their general offices from Akron to Ashland, Ohio, and hope to have their new factory, in the latter city, in full operation not later than April 15.

A branch of Pirelli & Co. (Milan), for the sale of their automobile tires in the United States, has been established in New York, where the interests of the Italian firm will be looked after by the National Sales Corporation, No. 296 Broadway.

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York), advises us:

"During March the money market has not been in condition to admit of banks in New York and vicinity buying much paper, and the demand has been very light, and at full rates ranging from 6 to 7 per cent. for the usual run of rubber names."

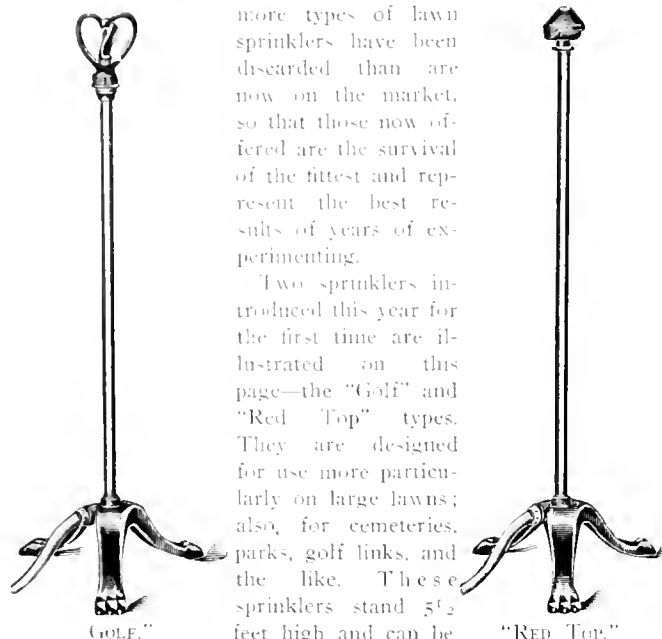
Jenkins Brothers, the valve manufacturers, have become a corporation, under the laws of New Jersey; capital, \$750,000. Incorporators: H. D. Gordon, A. E. Brady, and E. T. Swain, all of Elizabeth, N. J. The rubber department of this business, with works at Elizabeth, has been incorporated as the Jenkins Rubber Co. since 1894.

NEW LAWN SPRINKLERS.

THE lawn sprinkler business of late years has become highly specialized, and involves constant study in the development of new ideas, with a view to giving the best possible service.

It is said that many more types of lawn sprinklers have been discarded than are now on the market, so that those now offered are the survival of the fittest and represent the best results of years of experimenting.

Two sprinklers introduced this year for the first time are illustrated on this page—the "Golf" and "Red Top" types. They are designed for use more particularly on large lawns; also, for cemeteries, parks, golf links, and the like. These sprinklers stand 5½ feet high and can be used with either ¾

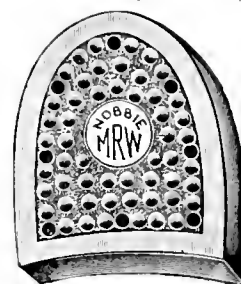


inch or 1 inch hose. They present an attractive appearance on

the lawn and, distributing water, as they do, from a considerable height, the spray is converted into a fine mist before it reaches the ground. [W. D. Allen Manufacturing Co., No. 151 Lake street, Chicago.]

ATTRACTIVE RUBBER HEELS.

A NEW line of rubber heel pads bears the brand "Nobbie M. R. W." They are referred to as being durable and to offer protection against slipping, besides being particularly neat in appearance and supplied to fit neatly. These claims are supported by the manufacturers with a guarantee "such as is made on tires." The "Nobbie" brand of goods is made by the Milford Rubber Works (Milford, Illinois), who are reported to be turning out some 15,000 pairs of heels daily. Any dealer who may be interested can obtain a neat hanger card, illustrating these goods, on application.



R. L. KINGSTON has resigned as manager of the Harburg Tire Co. (New York), being succeeded by Frank G. Hill. Mr. Kingston is now connected with The Crescent Parts Co. (Broadway and Fifty-sixth street, New York), marketing the "Crescent," formerly called the "Harburg" removable rim.

A STATEMENT was made by one of the receivers of the Ubero Plantation Co., in court in Boston, that the affairs of that ill-fated concern probably would be wound up shortly, with the payment of 50 per cent. of the creditors' claims.

Review of the Crude Rubber Market.

A DECLINING tendency in the crude rubber market has existed for a month past, after an exceptional absence of fluctuations for some weeks, March closing with lower prices than have been quoted in these pages since January, 1905. There are indications that the current Pará crop may be larger than in any former year, but not sufficiently so to account for a lower price level. The reason for easier prices is to be found rather in less activity in the consuming market. A question which is uppermost in the trade to-day is how long the conditions which have led to this result are to continue.

While general trade conditions have been good, and apparently continue so, the recent decline of railway and other corporation shares—though evidently resulting from a political movement, rather than from business causes—doubtless has had a cautionary effect upon industrial enterprise, leading to a checked demand for goods. For example, important projected railway improvements are known to have been halted, and the demand for supplies is less pressing. The hope is entertained, however, that the present situation is only temporary, and, in fact, its effect has not been felt in all lines of trade. Undoubtedly renewed activity in rubber buying would at once lead to an advance in prices. It is to be noted that no decline in cotton prices has been experienced, and cautious rubber manufacturers are not likely to figure on lower priced rubber until the indications that it is safe to do so have become more pronounced than is now the case.

As reported on another page, the last Antwerp sale showed a slight decline. Prices realized at the London auction of March 15 were practically on the same basis as on March 1. Some of the medium grades, particularly Centrals, have shown a firm tendency throughout.

The February arrivals of rubber at Pará (including cancho) were a little larger than for any previous month in the history

of the trade, with one exception. The March arrivals are expected to exceed 5,000 tons. Comparative figures for three years:

	1904-05.	1905-06.	1906-07.
First six months.....tons	13,300	14,600	14,720
January	4,590	5,710	3,780
February	4,320	3,020	5,060
March	5,000	3,700	4,210

Total to April 1..... 27,210 28,020 27,770
[a To March 21.]

New York quotations:

PARA.	Apr. 1, '06.	Mar. 1, '07.	Mar. 29.
Islands, fine, new.....	124 @ 125	118 @ 119	116 @ 117
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	120 @ 130	122 @ 123	118 @ 119
Upriver, fine, old.....	130 @ 131	126 @ 127	121 @ 122
Islands, coarse, new.....	73 @ 74	71 @ 72	67 @ 68
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	94 1/2 @ 95	92 1/2 @ 93	92 @ 93
Upriver, coarse, old.....	none here	none here	none here
Cancho (Peruvian) sheet..	74 @ 75	77 @ 78	75 1/2 @ 76
Cancho (Peruvian) ball...	88 @ 89	95 @ 96	86 @ 87
Ceylon, fine sheet.....	none here	137 @ 138	137 @ 138

AFRICAN.

Sierre Leone.....	
1st quality.....	104 @ 105
Massai, red.....	104 @ 105
Benguella	76 1/2 @ 77
Cameroon ball.....	78 @ 79
Acera flake.....	20 1/2 @ 21
Lopori ball, prime.....	110 @ 112
Lopori strip, prime.....	102 @ 103
Madagascar, pinky....	88 @ 89
Ikeimba	111 @ 112
Soudan niggers.....	91 @ 92

Late Para cables quote:

	Per Kilo	Per Kilo.
Islands, fine.....	5800	Upriver, fine..... 68500
Islands, coarse.....	3850	Upriver, coarse..... 48850

Exchange, 15 1/4 d.

CENTRALS.

Esmeralda sausage.....	88 @ 89
Mayaquil strip.....	73 @ 74
Nicaragua scrap.....	87 @ 88
Panama slab.....	66 @ 70
Mexican scrap.....	80 @ 90
Mexican slab.....	60 @ 70
Mangabeira, sheet.....	59 @ 60
Guayule	@ 48

EAST INDIAN.

Assam	04 @ 95
Borneo	48 @ 62

Statistics of Para Rubber (Excluding Caucho).

NEW YORK		PARA.		ENGLAND	
	Fine and Medium.	Coarse.	1907.	1906.	1905.
Stocks, January 31	124	4	128	224	157
Arrivals, February	1542	663	2205	1652	1370
Aggregating	1000	607	2333	1876	1527
Deliveries, February	1478	650	2137	1518	1391
Stocks, February 28	188	8	196	358	136
PARA.		ENGLAND		1905.	
	1907.	1906.	1905.	1907.	1906.
Stocks, Jan. 31	905	1400	1256	345	400
Arrivals, February	4930	3150	3430	804	1305
Aggregating	4995	4610	4686	1149	1825
Deliveries, February	4516	3873	3876	790	956
Stocks, February 28	485	737	810	449	875
World's visible supply, Feb. 28	1007.	1006.	1005.	1007.	1006.
Para receipts, July 1 to February 28	20,700	21,400	19,456		
Para receipts of Caucho, same dates	2,650	2,845	2,504		
Atloat from Para to United States, Feb. 28	634	745	1,868		
Atloat from Para to Europe, Feb. 28	1,250	970	745		

Plantation Rubber From the Far East.**EXPORTS FROM CEYLON.**

	Pounds.
Total Exports, 1905	168,547
Deduct rubber from Malaya	300
Total from Ceylon	168,247
Total exports, 1906	417,661
Less rubber from Malaya	81,475
Less rubber from Indo-China	9,462
Total from Ceylon	327,024

Distribution of 1906 Exports.

	Pounds.		Pounds.
Great Britain	285,722	Belgium	4,672
United States	105,172	Australia	3,581
Germany	12,522	Straits	28
France	5,964		

Ceylon exports were 72,040 pounds in 1904 and 41,684 pounds in 1903.

Weekly Ceylon Exports, 1907.

	Pounds.	Total, 1907	Pounds.
Week ending Jan. 7	—	20,418	
Week ending Jan. 14	17,870	22,080	
Week ending Jan. 21	889	5,183	
Week ending Jan. 28	4,104	6,107	
Week ending Feb. 4	3,465		

EXPORTS FROM THE MALAY STATES, 1906.

	Pounds.		Pounds.
Great Britain	680,266	Australia	9,108
Europe	53,867	Ceylon	53,916
United States	13,497		
Japan	7,057	Total	817,771
From Singapore	180,533	1905.	1006.
From Penang	48,267	710,135	
Total	228,800	98,636	

The consumption of Far Eastern plantation rubber in America has been much larger than is indicated by the above figures, on account of the exports here from Europe.

AT THE AUCTIONS.

LONDON, March 1.—Offerings of plantation rubber to-day were the largest yet recorded, the Malay States contributing about 31 tons and Ceylon 8 tons. The highest price was 5s. 0¹/₄d @ 5s. 10d. [= \$1.41 4-5], paid for 11 cases good pale crepe from the Val-lambrosa Rubber Co., in Klang. Several lots of block brought less than was paid formerly for this description, probably because

of a new lot of material. The highest price for a fine lot of block in the rubber of London was 5s. 10d. @ 5s. 10d. [= \$1.41 4-5] for a fine lot of block. One lot of fine block was sold at 5s. 10d. @ 5s. 10d. [= \$1.41 4-5] for a fine lot of block. One lot of fine block was sold at 5s. 10d. @ 5s. 10d. [= \$1.41 4-5] for a fine lot of block. One lot of fine block was sold at 5s. 10d. @ 5s. 10d. [= \$1.41 4-5] for a fine lot of block.

ANSWER, February 22.—At the London rubber auction to-day something like 5¹/₂ tons of Malay States plantation rubber of various small lots, realized from 7¹/₂ to 85 cents above the London valuation. The highest price paid was 10.35 francs per kilogram [= \$1.43 per pound] for a fine lot of crepe rubber.

Para.

R. O. WHITE & Co. report [March 1].

Our market, since our last report, has not shown much activity, but prices have been maintained, owing to the steadiness of the London rates. There is no doubt that very large quantities of stock are piled up in the various regions, but as the rivers are still well watered, and the time of the season, even apprehension is felt in some quarters, as the weather served steamers from there will be enabled to all to come down, especially since nearly all the river steamers have suffered heavy damage, and are unable to proceed.

The *Brazilian Kermis*, published at Rio, had this information in its issue of February 12: "Owing to the rivers being low, entries of rubber are later than usual at Manaus and Para, so that the season instead of practically closing in March will be prolonged to the end of April or, perhaps, into May, and the supply of rubber bills be spread over a longer period."

Balata.

S. FIGGIS & Co. (London) report in their annual review for 1906: Balata was in much reduced supply. Consequently the price gradually advanced, fine sheet closing at 2s. 2¹/₂d. @ 2s. 3d. Block at 1s. 8d. @ 1s. 8¹/₂d.

NEW YORK PRICES FOR BALATA, 1906.

Reported by Raw Products Co., New York.

	Block	Sheet	Block	Sheet
January	40=42	63=65	July	43=45 65=68
February	40=42	63=65	August	44=45 64=67
March	42=44	64=67	September	45=46 64=67
April	42=44	64=67	October	44=45 63=67
May	43=44	65=67	November	43=45 61=66
June	43=45	65=68	December	43=45 60=66

At the London rubber auction of March 1, 45 packages offered and 15 sold. Block, part fair, part brittle, 1s. 8¹/₂d. [= 41 cents]; sheet, 2s. 5¹/₂d. [= 50¹/₂ cents].

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

FEBRUARY 25.—By the steamer <i>Cametouse</i> , from Manaus and Para:		IMPORTERS.		Fine.	Medium.	Coarse.	Caucho.	Total.
A. T. Morse & Co.	414,600	70,000	101,300	37,100				623,000
New York Commercial Co.	163,300	62,700	56,400	23,100				305,500
General Rubber Co.	130,700	30,600	118,400	75,900				266,200
Paul & Arnold	152,500	56,700	74,600	32,000				289,000
C. P. dos Santos	25,700	2,500	23,700	17,800				68,700
Neale & Co.	25,500	2,900	27,300	11,100				52,700
Ed. Rees & Co.	27,000	4,600	36,600	11,100				36,200
Hagemeyer & Brunn	28,900		21,800					50,700
Total	968,200	230,000	434,100	191,700				1,724,000
MARCH 5. By the steamer <i>Benifance</i> , from Manaus and Para:		A. T. Morse & Co.		314,500	89,100	17,120	154,000	727,800

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots—per pound—are lower than one month ago:

Old Rubber Boots and Shoes—Domestic	11	11 ¹ / ₂
Old Rubber Boots and Shoes—Foreign	9 ¹ / ₂	9 ³ / ₄
Pneumatic Bicycle Tires	7 ¹ / ₂	7 ³ / ₄
Automobile Tires	9 ¹ / ₂	10
Solid Rubber Wagon and Carriage Tires	10	10 ¹ / ₂
White Trimmings Rubber	12	12 ¹ / ₂
Heavy Black Rubber	5 ¹ / ₂	6
Air Brake Hose	4 ¹ / ₂	5
Fire and Large Hose	3 ¹ / ₂	3 ³ / ₄
Garden Hose	2 ¹ / ₂	2 ³ / ₄
Mattings	1 ¹ / ₂	1 ³ / ₄

New York Commercial Co.	88,36	43,400	81,100	61,900	495,000	A. T. Morse & Co.	167,900	54,000	131,800	7,700	361,400
Poel & Arnold	18,300	22,100	31,300	54,900	238,800	New York Commercial Co.	92,400	140,000	33,900	70,100	210,400
General Rubber Co.	16,000	12,400	69,700	26,600	144,500	General Rubber Co.	56,000	91,200	76,200	6,700	148,100
Noble & Co.	1,000	2,000	18,400	5,100	40,000	A. P. dos Santos	17,000	11,100	25,100	.....	84,000
Ed. Reeks & Co.	40,000	21,000	2,350	36,000	30,000	Noble & Co.	9,600	2,500	27,000	.....	30,100
G. P. dos Santos	.....	.....	.....	30,000	30,000	Ed. Reeks & Co.	12,500	2,500	18,500	1,400	34,000
H. Marquardt & Co.	30,700	.....	9,900	.....	20,000	Hagomeyer & Brunn	12,100	.....	12,500	.....	24,000
Total	1,170,000	1,220,000	493,100	332,500	1,650,300	I. Johnson & Co.	14,900	.....	2,600	4,000	21,500
MARCH 14. By the steamer <i>C. G. Gresham</i> , from Managua and Pinar:						Czarnikau, McDougal Co.	8,800	.....	.....	.....	8,800
Poel & Arnold	21,600	112,500	83,200	48,300	455,200	G. Amsinck & Co.	300	.....	1,700	.....	2,000
						Total	632,400	290,900	412,500	138,200	1,390,000

PARA RUBBER VIA EUROPE.

Feb. 18. By the <i>Isabel Friedrich</i> =Mollendo	
W. R. Grace & Co. (Cauchos)	7,000
Feb. 17. By the <i>Stimula</i> =Antwerp	
Poel & Arnold (Fine)	7,000
Feb. 24. By the <i>Orange</i> =Liverpool	
New York Commercial Co. (Fine)	32,000
Feb. 28. By the <i>Coric</i> =Liverpool	
Poel & Arnold (Fine)	11,500
MAR. 1. By the <i>Lucania</i> =Liverpool	
General Rubber Co. (Coarse)	35,000
MAR. 3. By the <i>Graciosa</i> =Mollendo	
W. R. Grace & Co. (Fine)	4,500
MAR. 7. By the <i>Armenian</i> =Liverpool	
New York Commercial Co. (Fine)	23,000
MAR. 11. By the <i>Chlor</i> =Mollendo	
New York Commercial Co. (Fine)	3,500
MAR. 11. By the <i>Carmania</i> =Liverpool	
Poel & Arnold (Fine)	14,500
Poel & Arnold (Coarse)	28,000
MAR. 11. By the <i>Pictoria</i> =Hamburg	
Poel & Arnold (Fine)	11,000
Poel & Arnold (Coarse)	5,500
MAR. 18. By the <i>Parana</i> =Hamburg	
General Rubber Co. (Coarse)	7,500
Poel & Arnold (Fine)	7,000
MAR. 20. By the <i>Bahia</i> =Liverpool	
New York Commercial Co. (Fine)	33,500
MAR. 21. By the <i>Oceanic</i> =Liverpool	
General Rubber Co. (Fine)	45,000
General Rubber Co. (Coarse)	90,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

Feb. 16. By the <i>Virgencia</i> =Frontera	
Harburger & Stack	9,000
H. Marquardt & Co.	3,000
New York Commercial Co.	2,500
Feb. 16. By the <i>El Valle</i> =New Orleans	
Manhattan Rubber Mtg. Co.	15,000
A. N. Rotholz	2,000
E. B. Strout	1,500
Eggers & Heimlein	1,000
G. Amsinck & Co.	1,000
Feb. 16. By the <i>Maranhense</i> =Ceara	
Emile Bores	20,000
Feb. 18. By the <i>Isabel Friedrich</i> =Colon	
Hirzel, Feltman Co.	40,000
G. Amsinck & Co.	2,000
American Trading Co.	1,500
F. B. Strout	1,000
Suzarte & Whitney	1,000
Feb. 19. By the <i>Yamou</i> =Tampico	
Continental-Mexican Rubber Co.	115,000
Edward Maurer	1,000
Feb. 20. By the <i>Alfonso</i> =Colon	
I. Johnson & Co.	4,000
Mann & Emdon	3,500
Kunhardt & Co.	2,500
G. Amsinck & Co.	2,000
I. Brandon & Bros.	1,000
Graham, Hinkley & Co.	500
Feb. 21. By the <i>Reynold</i> =Bahia	
New York Commercial Co.	20,000
A. D. Hird & Co.	15,000
American Commercial Co.	10,000
Poel & Arnold	7,000
A. Hirsch & Co.	15,000
J. H. Rosbach & Bros.	3,000
Feb. 21. By the <i>Orange</i> =Liverpool	
R. Johnson & Co.	50,000
George A. Alden & Co.	3,000
Feb. 23. By the <i>Pictoria</i> =Colon	
Hirzel, Feltman & Co.	2,000
Demarest Bros. Co.	1,500
I. Brandon & Bros.	1,500
Feb. 25. By the <i>Merida</i> =Vina Cruz	
H. Marquardt & Co.	12,500

CENTRALS—Continued.

New York Commercial Co.	1,000	2,500
Feb. 25. By the <i>Comes</i> =New Orleans		
Eggers & Heimlein	3,000	
Williams & Leihum	1,000	
G. Amsinck & Co.	1,000	
Feb. 27. By the <i>Byron</i> =Bahia		
New York Commercial Co.	22,500	
American Commerce Co.	5,000	
A. D. Hird & Co.	3,500	31,000
MAR. 1. By the <i>La Plata</i> =Colombia		
D. A. De Lima & Co.	3,500	
Charles E. Grithm	2,000	
A. Held	2,000	
Meyer & Hecht	1,500	
Wessels, Kulenkampff & Co.	1,000	
Andreas & Co.	1,000	
A. M. Capen's Sons	1,000	
Kunhardt & Co.	1,000	
United Fruit Co.	1,000	
Suzarte & Whitney	1,000	
I. Brandon & Bros.	1,000	
Graham, Hinkley & Co.	500	
Eschbar & Gorziza Co.	500	17,000
MAR. 1. By the <i>Albanca</i> =Colon		
Mann & Emdon	5,000	
Piza, Nephews Co.	3,500	
Hirz I. Feltman & Co.	3,000	
Andreas Trading Co.	1,500	13,000
MAR. 2. By the <i>El Dorado</i> =New Orleans		
A. T. Morse & Co.	20,000	
A. N. Rotholz	4,500	
G. Amsinck & Co.	3,000	
Eggers & Heimlein	2,000	20,500
MAR. 4. By the <i>Washington</i> =Tampico		
Continental-Mexican Rubber Co.	130,000	
Edward Maurer	65,000	
New York Commercial Co.	30,000	
Poel & Arnold	11,000	230,000
MAR. 4. By the <i>Esperanza</i> =Frontera		
Harburger & Stack	13,500	
E. Steiger & Co.	4,000	
Meyer & Hecht	2,000	
American Trading Co.	2,000	
H. Marquardt & Co.	3,500	
New York Commercial Co.	2,500	
Theband Brothers	2,500	
W. L. Wadleigh	1,500	
Graham, Hinkley & Co.	1,000	32,500
MAR. 4. By the <i>Lucania</i> =Liverpool		
Robinson & Stiles	45,000	
MAR. 5. By the <i>Graciosa</i> =Colon		
Hirzel, Feltman Co.	5,000	
G. Amsinck & Co.	3,000	
A. M. Capen's Sons	3,000	
Eggers & Heimlein	1,000	
A. S. Lascellas Co.	500	13,000
MAR. 6. By the <i>Cintugos</i> =Tampico		
Continental-Mexican Rubber Co.	22,000	
MAR. 6. By the <i>Financa</i> =Colon		
G. Amsinck & Co.	4,000	
F. B. Strout	4,000	
A. Amburo Co.	2,000	
Charles E. Grithm	1,500	
Hirzel, Feltman Co.	1,500	
Demarest Bros. Co.	3,000	
D. A. De Lima Co.	1,500	
I. Brandon & Bros.	1,500	
Roldan & Van Sickle	1,000	
A. Santos & Co.	1,000	
I. Johnson & Co.	1,000	
Mecker & Co.	1,000	23,000
MAR. 7. By the <i>El Valle</i> =New Orleans		
A. T. Morse & Co.	6,000	
Manhattan Rubber Mtg. Co.	3,000	
Graham, Hinkley & Co.	1,000	10,000
MAR. 7. By the <i>Sarna</i> =Colombia		
G. Amsinck & Co.	5,000	
Kunhardt & Co.	3,500	
Schulte & Gershenberg	3,000	
Leitz & Co.	2,000	
I. Brandon & Bros.	2,000	
American Trading Co.	1,000	16,500
MAR. 6. By the <i>Merida</i> =Frontera		
Harburger & Stack	13,500	
American Trading Co.	5,000	
E. Steiger & Co.	2,000	

CENTRALS—Continued.

New York Commercial Co.	2,500	
H. Marquardt & Co.	1,500	
Graham, Hinkley Co.	1,000	25,500
MAR. 11. By the <i>Colon</i> =Colon		
Hirzel, Feltman Co.	5,000	
G. Amsinck & Co.	1,500	6,500
MAR. 11. By the <i>Carmania</i> =Liverpool		
Poel & Arnold	34,000	
MAR. 11. By the <i>Pictoria</i> =Hamburg		
Poel & Arnold	9,000	
George A. Alden & Co.	3,500	12,500
MAR. 13. By the <i>Han</i> =Colon		
G. Amsinck & Co.	3,500	
A. M. Capen's Sons	2,000	
I. Brandon & Bros.	1,000	
Bathing & De Leon	1,000	
Mecke & Co.	1,000	8,500
MAR. 13. By the <i>Nathanael</i> =Tampico		
Edward Maurer	80,000	
Continental-Mexican Co.	50,000	
New York Commercial Co.	22,000	
Poel & Arnold	4,000	
Harburger & Stack	1,000	157,000
MAR. 14. By the <i>Donnora</i> =Bahia		
New York Commercial Co.	13,000	
MAR. 14. By the <i>Cearense</i> =Ceara		
Emile Bores	35,000	
MAR. 14. By the <i>Lagos</i> =Greytown		
E. B. Strout	7,000	
G. Amsinck & Co.	5,000	
Andreas & Co.	2,000	
Meyer & Hecht	2,000	
De Lima & Cortessa	1,500	
Jose Julia & Co.	1,000	18,500
MAR. 15. By the <i>Marquesa</i> =Liverpool		
George A. Alden & Co.	25,000	
MAR. 16. By the <i>Monterey</i> =Frontera		
Harburger & Stack	7,000	
E. Steiger & Co.	2,500	
W. L. Wadleigh	2,500	
New York Commercial Co.	2,500	
H. Marquardt & Co.	1,500	16,000
MAR. 16. By the <i>Advance</i> =Colon		
Demarest Bros. Co.	5,500	
Roldan & Van Sickle	5,000	
Hirzel, Feltman Co.	5,000	
G. Amsinck & Co.	3,500	
Mann & Emdon	2,500	
A. Santos & Co.	2,000	
I. Brandon & Bros.	1,000	24,500
MAR. 18. By the <i>Verence</i> =Bahia		
A. Hirsch & Co.	15,000	
A. D. Hird & Co.	11,000	
New York Commercial Co.	8,000	
Poel & Arnold	9,000	
J. H. Rosbach & Bros.	2,000	43,000
MAR. 18. By the <i>El Rio</i> =Galveston		
Continental-Mexican Rubber Co.	30,000	
MAR. 18. By the <i>Manzanillo</i> =Tampico		
Continental-Mexican Rubber Co.	30,000	
New York Commercial Co.	23,000	53,000
MAR. 18. By the <i>Monahana</i> =London		
General Rubber Co.	25,000	
MAR. 21. By the <i>Sibila</i> =Colombia		
Scanz & Co.	3,000	
G. Amsinck & Co.	2,500	
Roldan & Van Sickle	2,500	
D. A. De Lima Co.	2,500	
A. Held	1,000	
I. Brandon & Bros.	1,000	
Kunhardt & Co.	500	13,000
MAR. 21. By the <i>Rock</i> =Liverpool		
Poel & Arnold	6,500	
MAR. 23. By the <i>Merida</i> =Frontera		
Harburger & Stack	7,000	
New York Commercial Co.	2,500	
Graham, Hinkley & Co.	1,000	
E. Steiger & Co.	1,000	
H. Marquardt & Co.	1,000	12,500

AFRICANS.

POUNDS.

Feb. 16. By the <i>Waldensee</i> =Hamburg	
Poel & Arnold	22,000
A. T. Morse & Co.	10,000

AMERICANS 1009

FEB. 18.—By the <i>Murphy</i> —London:	
General Rubber Co.	22,500
FEB. 21. By the <i>Albatross</i> —Rotterdam:	
Poel & Arnold.	4,500
FEB. 21. By the <i>Queen</i> —Liverpool:	
George A. Alden & Co.	22,500
A. W. Morse & Co.	14,500
Poel & Arnold.	4,500
FEB. 21. By the <i>Nautilus</i> —Antwerp:	
Robinson & Stiles.	22,500
Rubber Trading Co.	14,500
A. W. Morse & Co.	10,000
FEB. 23.—By the <i>Sigebord</i> —Hamburg:	
George A. Alden & Co.	22,500
FEB. 23. By the <i>Georg</i> —Liverpool:	
General Rubber Co.	170,000
Poel & Arnold.	27,000
George A. Alden & Co.	15,000
FEB. 26. By the <i>Kosmos</i> —Liverpool:	
George A. Alden & Co.	58,000
A. T. Morse & Co.	6,500
General Rubber Co.	4,500
Rubber Trading Co.	2,000
FEB. 26. By the <i>Zeland</i> —Antwerp:	
A. T. Morse & Co.	15,000
Poel & Arnold.	11,000
FEB. 26. By the <i>Batavia</i> —Hamburg:	
Poel & Arnold.	11,500
George A. Alden & Co.	8,000
W. L. Gough & Co.	6,000
A. T. Morse & Co.	8,500
FEB. 27. By the <i>Hudson</i> —Havre:	
Poel & Arnold.	35,000
Rubber Trading Co.	8,000
Robinson & Stiles.	5,000
George A. Alden & Co.	3,500
FEB. 28.—By the <i>Cerie</i> —Liverpool:	
George A. Alden & Co.	22,500
MAR. 1. By the <i>Andromeda</i> —Lisbon:	
General Rubber Co.	80,000
George A. Alden & Co.	22,000
MAR. 1. By the <i>Teutonic</i> —Liverpool:	
A. T. Morse & Co.	11,500
George A. Alden & Co.	6,500
MAR. 4.—By the <i>Prince Irene</i> —Genoa:	
A. T. Morse & Co.	11,500
MAR. 4. By the <i>Lucania</i> —Liverpool:	
General Rubber Co.	22,500
MAR. 5.—By the <i>Britagne</i> —Havre:	
A. T. Morse & Co.	11,500
MAR. 5.—By the <i>Municipalis</i> —London:	
General Rubber Co.	35,000
W. L. Gough & Co.	3,500
MAR. 6.—By the <i>Potsdam</i> —Rotterdam:	
Poel & Arnold.	4,500
MAR. 7. By the <i>Amman</i> —Liverpool:	
General Rubber Co.	100,000
A. T. Morse & Co.	15,000
Livesey & Co.	15,000
Raw Products Co.	5,000
MAR. 11. By the <i>Suzanne</i> —Havre:	
A. T. Morse & Co.	11,500
MAR. 11. By the <i>Germania</i> —Liverpool:	
Poel & Arnold.	37,000
General Rubber Co.	22,500
A. T. Morse & Co.	15,000
MAR. 11.—By the <i>New York</i> —London:	
General Rubber Co.	22,500
MAR. 11.—By the <i>Prussia</i> —Hamburg:	
A. T. Morse & Co.	35,000
General Rubber Co.	15,000
Poel & Arnold.	10,000
W. L. Gough & Co.	3,500
MAR. 15. By the <i>Friedland</i> —Antwerp:	
General Rubber Co.	90,000
A. T. Morse & Co.	65,000
Poel & Arnold.	33,000
George A. Alden & Co.	11,500
Joseph Cantot.	7,000
Rubber Trading Co.	9,000
Raw Products Co.	10,000
MAR. 15.—By the <i>Manissa</i> —Liverpool:	
George A. Alden & Co.	22,500
MAR. 18. By the <i>Leoparde</i> —Havre:	
A. T. Morse & Co.	11,500
MAR. 18.—By the <i>Victorin</i> —Liverpool:	
A. T. Morse & Co.	11,500
MAR. 18.—By the <i>Patricia</i> —Hamburg:	
George A. Alden & Co.	17,000

REFERENCES 1-10

General Rubber Co., Ltd.,	10,000	
Rubber Trading Co., Ltd.,	10,000	3
A. W. Bunch & Co.,	20,000	4
MAR. 15 By the <i>Deimos</i> , Liverpool		
General Rubber Co., Ltd.,		45,000
MAR. 20 By the <i>Laifania</i> , Antwerp		
George A. Allen & Co., Ltd.,		45,000
MAR. 21 By the <i>Barr</i> , Liverpool		
P. & A. Arnold, Ltd.,	15,000	
A. J. Morse & Co., Ltd.,	18,000	51,000
MAR. 22 By the <i>Keating</i> , Naples		
A. J. Morse & Co., Ltd.,		10,000
MAR. 23 By the <i>Calicut</i> , Havre		
P. & A. Arnold, Ltd.,	15,000	
Rubber Trading Co., Ltd.,	20,000	117,000
MAR. 24 By the <i>Oceanic</i> , Liverpool		
George A. Allen & Co., Ltd.,	15,000	
A. J. Morse & Co., Ltd.,	15,000	
Livesey & Co., Ltd.,	10,000	
A. W. Bunch, Co.,	7,000	48,000
MAR. 25 By the <i>Peninsular</i> , Hamburg		
P. & A. Arnold, Ltd.,	35,000	
George A. Allen & Co., Ltd.,	22,500	57,500

EAST INDIAN.

FIG. 18. By the <i>Munichbahn</i> London		FOREIGN.
General Rubber Co.	9,000	
General Rubber Co.	18,000	24,000
FIG. 23. By the <i>Chemica</i> Colombo :		
A. T. Morse & Co.	5,000	
George A. Alden & Co.	2,000	7,000
MAR. 4. By the <i>Tacna</i> Singapore:		
A. T. Morse & Co.	11,000	
W. L. Gough & Co.	15,000	
Paul & Arnold.	20,000	
Joseph Canton.	11,000	57,000
MAR. 6. By the <i>Panama</i> Singapore:		
Hartley & Co.	33,000	
A. T. Morse & Co.	20,000	
George A. Alden & Co.	20,000	
Winf. & Snellie.	10,000	
Paul & Arnold.	5,000	88,000
MAR. 31. By the <i>Neidenfels</i> Colombo:		
A. T. Morse & Co.	* 10,000	
Lavesey & Co.	* 1,000	11,000
MAR. 15. By the <i>Vaderland</i> =Antwerp:		
Paul & Arnold.	* 5,000	
MAR. 20. By the <i>B. rine</i> Liverpool:		
Joseph Canton.		11,000
MAR. 18. By the <i>Munichbahn</i> =London:		
General Rubber Co.	* 27,000	
George A. Alden Co.	* 14,000	
A. T. Morse & Co.	* 6,000	
Robinson & Stiles.	* 7,000	
Paul & Arnold.	* 3,000	57,000
—		
* Signifies Plantation Grades (balance Assam, Borneo and Java).		

G. C. CHAN AND J. H. W. LITTONG

FIG. 21. By the <i>N. d. am</i> —Rotterdam:	Paid Sds.
George A. Alden & Co.	17,000
MAR. 4. By the <i>Perona</i> —Singapore:	
A. W. Bruun & Co.	250,000
George A. Alden & Co.	225,000
P. A. Shaw & Co.	55,000
L. Littenloh & Co.	55,000
Joseph Cantor	20,000
A. F. Morse & Co.	11,000
	616,000
MAR. 6. By the <i>Pandaba</i> —Singapore:	
A. W. Bruun & Co.	85,000
George A. Alden & Co.	62,000
H. Pauli & Co.	30,000
General Rubber Co.	45,000
	222,000

CULTURAL PERCUSSION.

FEB. 26. By the <i>Batafia</i> Hamburg	FOURSH.
Robert S. Putnam Co.	45 00
MAR. 5. By the <i>Monarch</i> London	
Henry A. Gould Co.	45 00
MAR. 11. By the <i>Prætor</i> Hamburg	
George A. Miller & Co.	75 00
MAR. 22. By the <i>Thames</i> London	
Robert S. Putnam Co.	90 00
BALANCE	
FEB. 18. By the <i>Margaret</i> Ciudad Bolivar	FOURSH.
Thebaud Brothers	35 00

100

[illegible]

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK		PERCENT
<i>Imports.</i>		
India rubber	1,000,000	100.00
Gutta-percha	1,000,000	100.00
Gutta-percha (Pentamers)	1,000,000	100.00
Total	3,000,000	300.00
<i>Exports.</i>		
India rubber	1,000,000	100.00
Reclaimed rubber	1,000,000	100.00
Rubber Scrap Imported	1,000,000	100.00
Rubber Scrap Exported	1,000,000	100.00

BOSTON ARRIVALS.

		Pounds
JAN. 2.	By the <i>Armenia</i> —Hamburg	
Poel & Arnold	African	52.55
JAN. 10.—	By the <i>Sachsen</i> —Liverpool:	
Poel & Arnold	Central	17.55
JAN. 11.—	By the <i>Memnonie</i> —Antwerp	
W. L. Gough & Co.	African	4.62 1/2
JAN. 14.	By the <i>Cymon</i> —Liverpool:	
Poel & Arnold	Central	59.23 1/2
JAN. 18.	By the <i>Kennerbe</i> —Singapore:	
Poel & Arnold	Ceylon	323
JAN. 19.	By the <i>Canadian</i> —Liverpool:	
George A. Alden & Co.	African	8.32 1/2
JAN. 21.—	By the <i>Bethania</i> —Hamburg:	
George A. Alden & Co.	African	11.19 1/2
A. T. Morse & Co.	African	11.81 1/2
JAN. 28.	By the <i>Syltama</i> —Liverpool:	
George A. Alden & Co.	African	31.30
JAN. 30.—	By the <i>Derman</i> —Liverpool:	
George A. Alden & Co.	African	28.20
JAN. 30.	By the <i>Rapallo</i> —Hamburg:	
W. L. Gough & Co.	African	2.87
George A. Alden & Co.	African	13.73 1/2
Total		214.95 1/2
[Value, \$341.193.]		
		Pounds
FEB. 6.	By the <i>Michigan</i> —Liverpool:	
Poel & Arnold	Central	4.62 1/2
FEB. 9.	By the <i>Gladwin</i> —Singapore:	
George A. Alden & Co.	East Indian	14.14
FEB. 13.	By the <i>Barfleur</i> —Hamburg:	
W. L. Gough & Co.	African	18.30
FEB. 14.	By the <i>Saxon</i> —Liverpool:	
George A. Alden & Co.	African	19.00
FEB. 23.	By the <i>Comet</i> —Liverpool:	
George A. Alden & Co.	African	11.7 1/2
FEB. 27.	By the <i>St. George</i> —Liverpool:	
George A. Alden & Co.	African	14.14
Total		96.27 1/2
[Value, \$672.72.]		
GRAND TOTAL.		
FEB. 8.—	By the <i>Arcturion</i> —Singapore:	
George A. Alden & Co.		1.61
FEB. 14.—	By the <i>Saxon</i> —Liverpool:	
Poel & Arnold		1.62 1/2



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Liverpool.

WILLIAM WRIGHT & Co. report [March 1]:

Fine Pará.—The market on spot has been dull, and prices have declined $\frac{1}{16}$ d. per pound. There has been more disposition to sell forward, in anticipation of the expected, but still delayed, heavy receipts. The receipts this month will be considerably short of the estimate, but it is hoped that next month the shortage will be made up. America still continues an active buyer, and it will largely depend on her future actions whether prices will or will not decline. At the close prices look like going lower, but not to any considerable extent. Manufacturers must not put too much faith in a decided decline in values on the arrival of the expected heavy supplies; the contrary, in the past, has often proved to be the case.

EDMUND SCHLUTER & Co. report [February 28]:

The market during February has been quietly steady for Pará grades, with the exception of cauché ball, which declined owing to more ample arrivals, actual and prospective. Inasmuch as the information from Brazil points to full receipts in March-May, the market remains dull and of somewhat uncertain tendency. In spite of the actual shortage of receipts,

there is at present a large supply of rubber on the way to Europe, of which a fair proportion is unsold. On the other hand manufacturers admittedly keep exceedingly small reserve stocks, and are buying every day for their immediate wants.

WORLD'S VISIBLE SUPPLY OF PARA, FEBRUARY 28.

	1907.	1906.	1905.	1904.	1903.
Tons.....	4190	5047	3902	3599	4701
Prices, hard fine.....	5 1 $\frac{1}{2}$	5 4 $\frac{1}{2}$	5 5	4 6	3 9

LIVERPOOL STOCKS OF AFRICAN RUBBER, FEBRUARY 28.

1907.....	301	1904.....	346	1901.....	779
1906.....	298	1903.....	355	1900.....	595
1905.....	338	1902.....	530	1899.....	441

MESSRS. JOSEPH FYNNEY & Co., india-rubber merchants and importers, of Liverpool, were inadvertently mentioned in our last issue in connection with a wrong address. They are located in Harley buildings, 11, Oldhall street.

Antwerp Prices Lower.

THE offerings at the inscription of March 21 embraced about 270 tons, principally Congo sorts. The exceptions were 6 tons of Java and Borneo sorts and 3 $\frac{1}{2}$ tons Java and Straits plantation rubber. Some principal lots, with the estimates (in francs per kilo) were:

47,770 kilos Upper Congo, ordinary.....	10.85-11.90
48,885 " Kasai, red.....	10.00-11.75
55,740 " Aruwimi.....	8.60-12.50
4,115 " Lake Leopold I.....	8.75
17,827 " Lake Leopold II.....	9.75-12.80
20,870 " Mongalla.....	9.50-12.50

The bulk of the offerings was sold, at a reported decline of 10 centimes per kilogram, or about $\frac{7}{8}$ of 1 cent per pound.

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1907.....	6,473,039	292,892	6,180,147
January, 1906.....	6,458,513	408,846	6,049,667
January, 1905.....	7,418,000	214,294	7,203,712
January, 1904.....	4,682,409	235,498	4,746,911
January, 1903.....	5,881,341	191,006	5,690,335

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1907.....	2,930,620	1,419,880	1,510,740
January, 1906.....	4,221,140	1,218,580	3,002,560
January, 1905.....	3,427,820	1,242,120	2,185,700
January, 1904.....	2,832,500	669,300	2,163,200
January, 1903.....	3,012,020	1,161,360	1,850,660

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1907.....	1,583,560	1,049,840	533,720
January, 1906.....	2,488,640	1,249,380	1,239,260
January, 1905.....	2,220,020	531,300	1,688,720
January, 1904.....	805,860	728,860	77,000
January, 1903.....	1,021,020	873,400	147,620

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1907.....	1,259,335	904,725	354,610
January, 1906.....	2,048,757	651,649	1,397,108
January, 1905.....	1,346,376	560,859	785,517
January, 1904.....	1,379,356	895,228	484,128
January, 1903.....	1,252,405	275,112	977,293

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1907.....	5,867,568	3,401,328	2,466,240
January, 1906.....	4,221,168	3,368,512	852,656
January, 1905.....	5,160,176	3,107,552	2,052,624
January, 1904.....	4,628,064	3,225,046	1,403,018
January, 1903.....	5,278,784	4,229,344	1,049,440

*General Commerce. †Special Commerce.

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THE WELD MFG. CO.,
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inside of coat.....



INDIA RUBBER WORLD

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HEVEA BRASILIENSIS

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Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

Vol. XXXVI. No. 2.

MAY 1, 1907.

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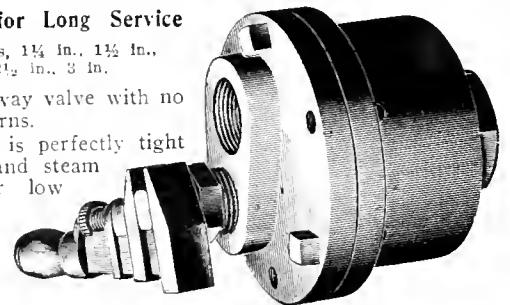
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ner- proportionately more for the long staple. But this writer mentions one planter who for years has been growing 1 1/4-inch cotton, which this year he sold at 10 cents a pound above the price for ordinary 1-inch upland cotton. Now if the situation is really as pointed out in *The Cotton Journal*, the rubber trade, for example, might become more independent of the growers of Sea Island cotton through the substitution for it of other American grades. And if a few growers of upland, here and there, can grow extra long staple cotton and profit by it, why may not a great number do the same?

The United States *Daily Consular Reports* recently contained an article on the advantage which British manufacturers derive from the mixing of cottons. Whereas the American manufacturer, as a rule, confines his selection to home grown material, the Lancashire spinner finds in the Liverpool market not only American cotton, but the products of India, Egypt, Brazil, Peru, and the West Indies, varying in length of staple and all the other salient qualities. The consular report indicates that, with such a variety to select from, the British spinners have become particularly expert in testing cotton and learning its real worth and adaptation to any particular purpose. Herein lies one reason why British manufacturers have been able to sell certain cotton fabrics for less money than any of their competitors.

The situation with regard to cotton, so far as the American rubber trade is concerned, suggests the period when only Pará rubber was used, and other grades, as they gradually became available, were regarded with disfavor or distrust. Now these other grades are used in as large volume as Pará rubber, each being carefully chosen for a particular reason. And not the least important advance which has been made in the rubber industry has been in the art of mixing various rubbers in the same compound, each giving some desired quality to the finished product. This, we take it, is what the Lancashire mills are doing with cotton, and what American spinners doubtless are learning to do. There are situations, of course, where the rubber trade requires cotton fabrics for which Sea Island cotton is indispensable. But this has become an expensive material, such as a manufacturer is not justified in using when a lower priced grade might meet the requirements, either alone or in combination with Sea Island.

THE BRITISH TIRE MARKET.

A LEADING rubber tire manufacturer in England writes in a contemporary complaining of the situation: "herein his own market is invaded freely from the continent, while he is debarred from selling goods abroad by prohibitive custom's charges. He refers to a particular company as 'collecting in England thousands of pounds weekly [for tires] and sending it to Germany to pay the wages of thousands of German hands and the rates and taxes of Germany, whereas here we only get the advan-

tages of a few pounds a week spent by their small staff of selling clerks." This same Germany company, we are told, advertise "in a most tantalizing way" the number of hands they employ abroad to supply English wants which, the writer thinks, the English could supply themselves.

The manufacturer we quote drops here into politics, and hints that Britishers should no longer be "content with doing what our grandfathers told us we should do, while everyone admits that things are different now," but meet "this new foreign dumping scheme" with retaliation. If Britishers are not allowed to sell tires in Germany, keep the Germans out of Britain, even to the point of forgetting the teachings of Cobden.

But politics as a rule is none of our affair, and particularly foreign politics, though we may hazard a doubt that England will soon put a protective duty upon rubber tires. Meanwhile, what have tariffs elsewhere to do with the sale of tires in England? Home and foreign makers meet there on common ground, except that the foreigner has to pay more to get his wares to market. Then, if the home factory can supply goods of a given quality at prices as low as the imported article, what reason is there to fear outside competition?

GOOD WORK OF THE CONSULS.

THE American consular service, we believe, will not suffer by comparison with that of any other nation. It includes many consulates of long standing, and the force includes not a few officials of many years' experience. As an example of the capable men the service has embraced, even at minor ports, mention may be made of a certain consul sent to Pará, who wrote one of the first, if not the first, consular reports in any country relating to rubber, who established a business of importing rubber to the United States and instigated the establishment of some important rubber factories here; and who founded in Great Britain, first under his own name and later as a public company, one of the leading rubber works in that country.

The reports from the consuls as now published at Washington are not excelled in any other country in point of practical value, but are being taken as a model, both in character and in the method of bringing them out, by other great powers. Our motive in writing this is not boastful; it is rather an attempt to increase the usefulness of these reports by helping to call the attention of business men to them. Without doubt the large increase in exports of American manufactures in recent years has been due in an important degree to the definite information regarding trade conditions abroad contained in the consular reports. The circulation of such intelligence has been widespread, since practically every newspaper nowadays contains news matter directly traceable to the work of the consuls.

The efficiency of this service now promises to be dis-

tinently enhanced under a new regime just beginning, under which appointments and promotions are to be based, to a greater extent than before, upon the merit system. All the consuls in the past have not been model officials, and probably all future ones will not be, but the practice of insisting upon definite standards of qualification, instead of paying political debts with consular appointments, marks an advance upon which the business interests of the country are to be congratulated.

PROSPERITY OF CEYLON

CEYLON appears, from all accounts, to be in an exceptionally prosperous condition. The reports of the large tea planting companies, most of which have held their yearly meetings lately, indicate a favorable status of their affairs. The estates are in good shape, the yield has been satisfactory, and higher prices for tea are the rule. Not only this, but the cocoanut interest is assuming larger proportions, and numerous other so-called "minor products" are becoming more important as staples of export. The planters of Ceylon, in fact, regard their colony as making a record second to no other British dependency, and they have no such fears for the future as existed at the time when their hopes in respect of coffee began to be dissipated.

Not least of the encouraging features of the situation is the success, to date, of rubber planting in Ceylon. There may have been a time when some planters turned to rubber as a sort of last resort when other planting prospects were none too bright, but that feeling does not now exist. Rubber has come to form one more profitable crop, and thus removes the planters further from the position of having "all their eggs in one basket."

The more prosperous Ceylon as a whole, the better for the rubber interest there, and the whole world is concerned about new sources of rubber, wherever situated. What has been said here, by the way, about the one colony, is becoming true more and more of planting in the Malay States, and doubtless can be reported later of the Dutch Indies as well as of the British possessions.

THE REVIVAL OF INTEREST IN COTTON GROWING in many countries at this time occurs under more favorable circumstances than when the crop was first planted in some of them. Better shipping facilities than formerly enable the product to be marketed more favorably; better facilities and methods exist for preparing cotton for market; the seed now is a source of profit; and there is in prospect a permanently higher price than in former years. It may be, therefore, that success will now be attained where earlier results were disappointing.

WHAT IS TO BECOME OF THE AMERICAN INDIAN under the paternal care of the government, which supplies him, free of cost, with so many articles not suited to his character as Lord of the forest? For years Uncle Sam has been buying rubber boots and shoes for the red men and for their squaws and pappasies, and this year tenders were invited for supplying Indians with free garden hose and rubber belting and packing. The "traves"

of other days would have been an 800 foot tugs, and really it is hard to think of a true Indian handling a lawn sprinkler instead of a toma hawk.

COTTON GROWING IN AFRICA.

THE total cotton production of the British colonies, under the auspices of the British Cotton Growing Association, it is estimated, will reach 4,000,000 lbs. of a value of only £500,000 [=\$2,433,250]. Of this 3,000,000 lbs. is estimated for the British colonies in West Africa. This is the result of only four years' work, and the association is to be much encouraged. The association's shares have been subscribed for to the extent of £254,494 [=\$1,238,495], or more than half of the total of £500,000.

The Rhodesian Cotton Co., formed lately in South Africa with 210,000 capital, have planted already several hundred acres at New Bonteville. They use steam plows.

The German colonial administration is in earnest in promoting cotton planting in Africa. This is one of the objects of the Kolonial Wirtschaftlichen Komitees, a semi-official body. The latter have opened at three stations in Togoland a German African colony, a *Baumkulturschule* (cotton school), with a three years' course, for native boys. At a recent exhibition at Paderborn, Togoland cotton was shown at work, treating cotton grown under the auspices of the school, after which it was baled by the most approved methods for export. But German East Africa is the Germany colony which thus far has led in cotton production. Only statistics of values can now be given, showing the exports of German colonial cotton. The figures indicate marks:

	1902.	1903.	1904.	1905.
Total from German colonies	15,212	84,300	200,035	306,643
From German East Africa	212	7,313	124,219	191,145

But how small these figures appear in comparison with the imports of raw cotton into Germany in 1905, amounting in value to 470,000,000 marks!

The French Colonial Cotton Association, formed three years ago by French cotton manufacturers to promote cotton growing, does not, like the British association, exist for purposes of profit. It has supplied free seed to the local inhabitants of the various colonies of France, on the promise of buying all the cotton grown from it. The association reports promising progress, though only a small amount of cotton has yet been produced. A Bordeaux journal points out the suitability of Algeria for cotton growing, as shown by the fact that, under the stimulus of high prices for cotton during the American civil war, considerable cotton was exported from that colony. The figure for 1866 was 1,022,046 kilograms [= 4,407 bales of 500 pounds]. The production then dropped gradually to almost nothing. *Bradstreet's* gives the cotton exports of the French colonies (except Indo China) at 37,862 pounds in 1904 and 108,801 pounds in 1905. French Indo China exported 9,570,855 pounds in 1904 and 13,547,702 pounds in 1905, the latter equaling 27,095½ bales of 500 pounds.

INDIA'S BIG COTTON CROP.

THE acreage planted to cotton in India in the year ended March 31, 1907, was computed at 22,344,000, a large increase over any former year. The product was estimated at 400,800 bales (of 500 pounds), an increase over the preceding year of 43.3 per cent. The yields of previous years were stated by the United States Consul at Bombay to have been 3,168,000 lbs. in 1903-04; 3,848,000 lbs. in 1904-05; 3,240,000 lbs. in 1905-06. Indian cottons vary greatly in spinning value, the various grades being quoted recently in London at an equivalent of 7 to 11 cents, with ordinary American selling at 10½ to 13½ cents per pound. Considerable cotton from Egyptian seed is now grown in Sind, India.

RUBBER PLANTING INTERESTS.

RUBBER IN SUMATRA

THE next "boom" in rubber planting is expected to take place in Sumatra, where, it is stated, some 150,000 acres of land have already been "allocated" for this purpose. The soil and climate have already been demonstrated to be suited for growing *Hevea*, and the large native population, under Dutch protection, has been found most satisfactory for the purposes of large planting estates.

There has been formed in Holland a company, Vereenigde Plantagen der Bita Landen with 3,000,000 florins (\$1,200,000) capital, to acquire a concession of 4,250 hectares (10,502) acres in the Sultanate of Bita, in East Sumatra, and plant it with rubber. The president is Ernest Bunge, of an Antwerp rubber firm, and Louis Gesar, the Antwerp rubber broker, is a director.

The important Congo trading company, Societe Anonyme Belge pour le Commerce du Haut Congo, have under consideration an investment of 100,000 florins (\$40,200) in the Dutch company Brussel Sumatra Caoutchouc Maatschappij. *The Times* of Ceylon hears that King Leopold, under various interests, holds in Sumatra already about 80,000 acres of land suited for rubber.

The Sematra Para Rubber Plantations, Limited, was registered in London March 18 with £100,000 (\$486,050) capital, to acquire the Pangkattan estate, in Bita, Sumatra, already producing coffee and rubber. Purchase price, £60,000. Registered office: 30, Abchurch Lane, E. C. 4, London.

It will be remembered that rubber culture in Ceylon and the Malay States was first introduced in connection with large tea and cocoa estates, owned by British companies. A similar system of company owned estates prevails in Sumatra, particularly in respect of tobacco. The shares of scores of such estates are traded in regularly on the Amsterdam *boerse*, showing that Dutch investors regard such enterprises with favor. It is now proposed to plant rubber and tobacco together. At the recent Ceylon Rubber Exhibition Mr. M. Kelway Bamber delivered an address recommending tobacco as a "catch crop" for rubber.

"BRITISH GROWN RUBBER."

UNDER this heading the important London commission house of Gow, Wilson & Stanton have issued a circular bearing upon the notable development in rubber culture that is taking place in Ceylon and the Federated Malay States. While the production in those colonies is increasing rapidly, they say "it does not appear likely that the production from South America, Africa, and other parts will increase to any great extent in the near future." In view of the continued increase in consumption, not only is overproduction not imminent, but rubber planting "should for a long time continue a profitable commercial undertaking." In presenting statistics to support their argument, Messrs. Gow, Wilson & Stanton do *THE INDIA RUBBER WORLD* the honor to compile their figures from the columns of this Journal, giving full credit for the same.

AN IMPROVED TAPPING TOOL.

THE inventor of the "V. D. K." rubber tapping knife—Gustaaf Van den Kerckhove, of Brussels—has modified it by the addition of another hollow blade, increasing the number to four. The purpose is to render the knife adaptable to every species of rubber plant now yielding rubber, and this Mr. Van den Kerckhove thinks he has attained. Most of the other tapping knives now in use have been designed each for a particular variety of rubber tree or vine, and are not adaptable for use on any other. Besides, the inventor in this case offers a tool with which a complete novice can be made, whereas in the case of some other devices, considerable experience is required. The "V. D. K." device was copyrighted by Van den Kerckhove in the Netherlands, and is copyrighted in England by Messrs. Brown & Davidson, Limited, of Colombo, Ceylon.

RUBBER PLANTING RESULTS.

YALAMBIA Tea Co., of Ceylon, Limited. Rubber crop for 1906, 8,025 pounds, from 5,947 trees, of which part were very lightly tapped; average, 1.35 pounds per tree. This year, with 2,100 additional tappable trees, 11,000 pounds are expected. Yield in 1904, 583 pounds, in 1905, 2,855 pounds. Present number of trees, 13,213.

Raygam Co., Limited, in Ceylon, have 482 acres in rubber and 497 acres in tea. Tapping began last year, yielding 3,107 pounds of rubber. This year it is expected to tap 5,500 trees, with an estimated yield of 5,000 pounds.

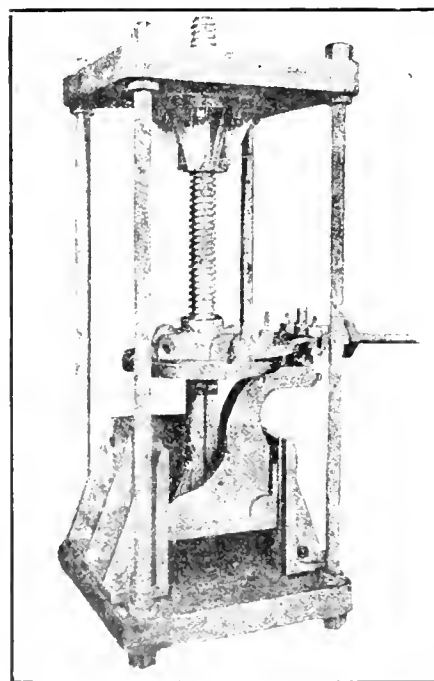
On the Semmyah estate of the Asiatic Rubber and Produce Co. some ten-year old trees (*Hevea*), it is reported, have been yielding 1 pound of rubber each.

PLANTATION "RUBIO."

THE report of Mr. Arthur St. J. Whiting, the inspector chosen by the shareholders of the Tehmantepec Rubber Culture Co. (New York), to visit their plantation in Mexico, contains details regarding the 250,000 *Castilloa* trees on the estate, showing a continued satisfactory increase in size. The plan of close planting has been followed, with the idea of thinning out at the proper time, which time Mr. Whiting does not think has arrived in the case of the oldest planting (1902). It is expected that considerable rubber will be obtained from the trees which are to be removed. Manager A. B. Luther is conducting systematic tapping experiments on some older planted trees rented on a neighboring estate. A sample of the rubber obtained was reported on by a rubber importing house as being "approximate in value to Ceylon and Straits Settlements plantation sheet."

A RUBBER BLOCK PRESS.

THE illustration relates to a press for preparing crude rubber for market in the "block" form, which attracted so much attention at the Ceylon Rubber Exhibition last year, and which form has brought such good prices at the London auctions as to appeal greatly to the interest of the planters in the Far East. It is stated that with the use of this press smooth, clean blocks of rubber—already coagulated, of course—can be made and finished in one hour, two coolies being able to apply the exact pressure required in from 5 to 10 minutes. This press is adapted equally for dry or wet



RUBBER BLOCK PRESS.

ks, and, as now made, for turning out blocks 12 inches square and of any thickness up to 12 inches or more. This press has been supplied already to a number of estates in the Federated Malay States, and also to the owners of a large rubber plantation in Mexico. A patent has been applied for on this press, and the sole makers are Brown & Davidson, Limited, Colombo, Ceylon.

India-Rubber on the Island of Cuba.

By the Editor of The India Rubber World

THE day after the 13th we sailed from Pier 13, East river, New York, getting away at 12:13, *en route* for Cuba.

Gedney channel was full of ice, but the water was smooth and the day fair. Aboard the boat were a number of rubber planters on the way to Mexico, and my roommate was a prominent rubber manufacturer, also bound for Cuba. The weather was fine even off Hatteras, and everybody aboard had ample opportunity to be sociable, and they all were. I was amused to discover how fearful the Mexican planters were of the possibility that guayule rubber, which they seemed to dislike very much, would put a check on the planting of *Castilloa*. I do not know whether I was able to convince them that such was not the case, but I did my best.

I should have prefaced this story, perhaps, with a statement of why I was going to Cuba. I had always believed that rubber could be grown there, though whether profitably or not I did not know. But the knowledge that 451 pounds of cultivated rubber had been shipped from that island to New York stimulated my interest afresh, and the time seemed to be ripe for me to go—that is, one revolution had just been quelled and the next one was not quite due, so I felt that it might be well to fill in the hiatus myself.

After passing Hatteras we soon sighted Florida, coasted along by Palm Beach, and in due time, early one bright morning, "picked up" Morro Castle. Later we entered the narrow mouth of Havana harbor, and passing the wreck of the *Maine*, anchored in such shallow water that the mud from the harbor bottom rose in great volumes all about the boat. Owing to the "Lighter Trust" we were forced to go ashore in a small transfer boat, instead of tying up at a pier and being discharged like up-to-date Christians. The time will come no doubt when this trust will be "busted," and all such discomfort and cost be avoided. This belief, however, did not give us much comfort as we sat in the

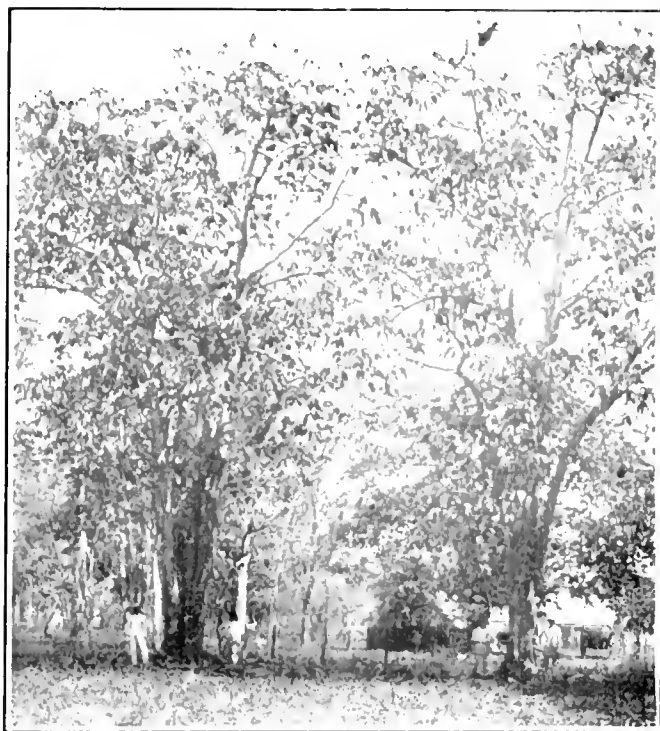
broiling sun three quarters of an hour, our little boat started for shore.

One of my best friends in New York advised me by all means to go to the Hotel L. I thereupon cornered all suggestions on the part of hotel runners that there was anything else worth considering, which was where I was wrong, and the Colonel and I took up our abode there. The city, to be sure, was crowded, and it was difficult to get accommodations. We got two dark rooms with the usual mosquito net covered beds, and with running water in each room. It was not the sort of running water, however, that is well under control, for when it was turned out of the hand filled tank it leaked out upon the floor and made wading boots almost a necessity. The man chamber-maid came in with a cigar in his mouth every now and then and solemnly mopped it up. He also gave me clean sheets after I threatened in pantomime to make a bonfire of the pair that my predecessors had left, which were far from spotless. However, these things do not trouble one in the tropics if you know how to guard against them, and if you have somebody along who is a tenderfoot who had to pay \$1.20, for example, for having a pair of trousers pressed, it is really interesting. I might say that after that one experience the Colonel allowed his knees to bag as much as they pleased, not because he could not spare the money, but because he could not bear to be robbed.

The first real glimpse of Cuban life that I had was in going around the city that afternoon and evening, and it certainly is beautiful for location, and marvelously interesting. That Havana will one day be the Paris of America is beyond question, and even to-day, with its beautiful park in the city's center, its *prado*, and its gay crowds during carnival time, it has a decided suggestion of the French capital. One delightful thing about the city is the cheap cab fares—that is, if you know how to get them. 20 cents taking one to almost any part of the city, the regulation



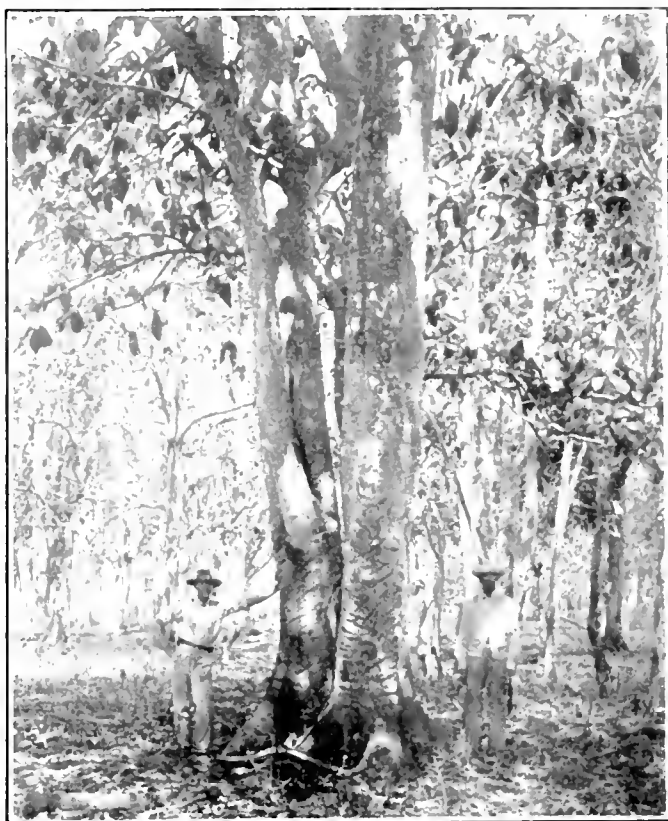
THE EDITOR AND HIS COME-ON IN A CUBAN FINO



"CASTILLOA ELASTICA" AT EL ALJIBES.
[Circumference 12 to 14 feet, height about 80 feet. The leaves are large and glossy.]

but more about that later. Mr. Baker had taken a much greater interest in the question of rubber culture, and with the limited money and time that the department could afford him had gone so far into it, that I spent my time chiefly in getting a general idea, not only of what exotic rubber plants would do there, but what possibility there was of native products hitherto unknown to the rubber trade. For example, he showed me a plant, or rather a large shrub, which is known as the "cainilla," and is botanically the *Chrysophyllum olivaceum*. This fruits about September, bearing a sort of plum that, with a little crushing of the pulpy interior, becomes a gum somewhat like chicle. In parts of the island hundreds of tons of this fruit go to waste every year. There are also thousands of acres of land covered with shrubs and vines near the coast, some of which no doubt would be numbered among the lesser rubber producers. Of course, as there has been no forestry department up to the present

time there has been no systematic collection of such plants. The result of my work at the department was that its progress would be slow, but that it would be worth the effort. I entered the country on the 10th of September, and took my outfit and a few thousands of dollars, and attempted to make a tour of the country. I had a very good horse, but it was not a very good rider. I spent so much time in the country that I had to return in a back to Havana, and I had to return in a back to Havana in a one horse. I had to return in a back to Havana in a one horse.



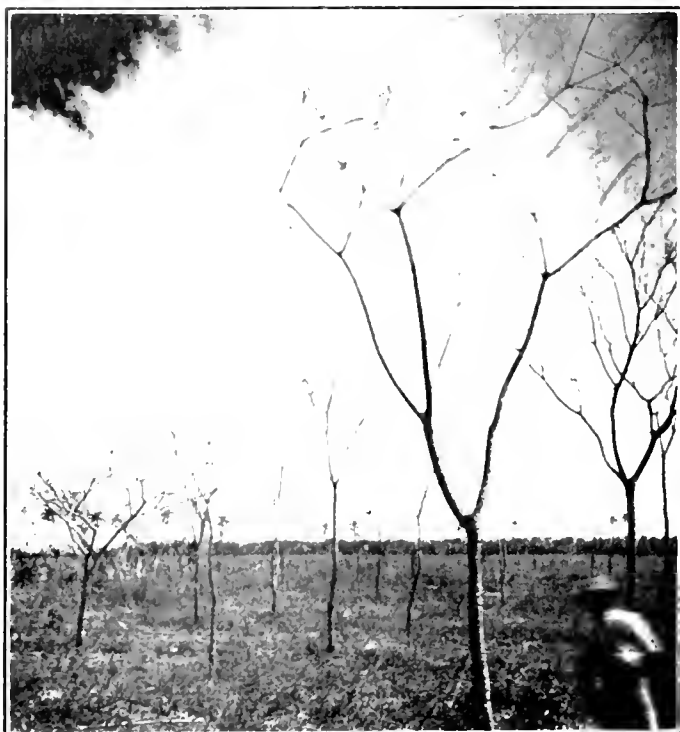
"CASTILLOA ELASTICA" AT EL ALJIBES.
[Circumference 12 to 14 feet. Plant 12 to 14 feet high. Leaves large and glossy.]

My driver was an alert little Cuban and knew the names of every tree and every ranch, who treated me to good coffee and other nibbles, and his facility of making himself understood when his Spanish was too much for me, was really remarkable. The roads were fine, and the estates, nearly all of them, which were owned by Americans, were very extensive and well managed. I found a good many small estates, some of which were very good. Then a flock of black wild geese flew over the river, and he said "Much, much!" "Much, much!"

I have always found that if at the beginning of a tour of the country one could obtain information on a point of interest, I would be able to find a thousand and more work in the country. I therefore went to the office of the "Secretaría de Agricultura, Fomento y Comercio." There



"CASTILLOA ELASTICA" AT EL ALJIBES.
[Charge seedlings from the "El Aljibes" estate.]



GROUP OF "MANIHOT GLAZIOVII" TREES

[Property of Dr. F. I. de Vildosola, Secretary of Agriculture.]

I was introduced to Secretary Dr. Francisco I. de Vildosola. I found him to be one of the very best types of Spanish gentleman. He did not speak much English, but understood it, and we were able to get together without the slightest difficulty. Dr. Vildosola is a very large land holder and is in office purely for patriotic reasons. When he understood my errand to Cuba he at once placed at my disposal all the department records, and presented me with books and pamphlets and a fine sectional map of the island. He was well up on india-rubber and talked interestingly on plantings of *Hevea*, *Castilloa*, *Manihot*, etc. He also spoke of the native *Ficus* trees and said that the one called

by the natives "jaguey hembra," and which he identified as *Ficus radula*, is the only one that produced commercial india-rubber—that is, rubber had been secured from the latex that brought 60 cents per pound when Pará rubber was somewhere about the dollar mark. It is also claimed that the wood of the tree is useful, while the roots yield a fiber used by surveyors in making chains or lines. These trees have never been cultivated, but either grow wild or are set out for ornament and are said to be abundant in the Isle of Pines. At a later date I expect to have both latex and figures as to yield.

Incidentally, the Doctor secured for me some fine photographs of *Castilloas* on an estate at El Aljibes, near Tapaste, in Havana province. These trees are from old plantings of a dozen or more trees, but a very thrifty orchard has sprung up around them of trees that seeded themselves. They have not only found a thoroughly congenial soil, but climate, drainage, and everything is right for them. The soil there, by the way, is a dark red loam, very deep and well drained, and the location in the high valley protects them from winds on all sides. Underneath the old trees—in fact, everywhere within reach, where there is shade and moisture—there are thousands of little seedlings growing thriftily, a native nursery that could easily be developed into a large plantation. The largest of the trees on this plantation are 14 feet in circumference, 3 feet from the ground, and are from 75 to 80 feet high. As far as the records go the original trees were planted back in 1830 from seeds distributed by the botanical gardens of Havana to plantations like El Aljibes—for instance, at Salud, Bijical, and San Jose de las Vegas.

Later the secretary was able to secure for me photographs of *Manihot* planted in 1903 at the Labrador sugar plantation, which looked fairly well, considering they were taken at the time when the trees shed their leaves. These trees did not seem to have suffered from the insect that attacks the terminal buds about which Mr. Baker spoke. In answer to many questions, the opinion of the secretary was that both the *Castilloa* and the *Manihot* grew well in Cuba, but he did not know of the *Hevea* ever having been experimented with enough to prove its fitness or unfitness. I saw the secretary a number of times during my stay in Cuba and he did everything possible to make the securing of information easy, and since my return has been good enough to send me additional information.



"MANIHOT GLAZIOVII" AT ENTRANCE TO FINCA SAN MIGUEL

taken as a whole, the rubber tree that seems to appeal to the Cuban planter more than any other is the *Castilla*. Probably the most enthusiastic man in all Cuba regarding this tree is Federico M. Castro, who lives in Havana, and who during the World's Fair at St. Louis had a creditable exhibit of rubber

gathered from *Castilla* trees then growing in Cuba. He advises their being interplanted with bananas, and also as a shade for both coffee and cacao. He also suggests that in tapping the tree, *yaguas* or strips from the leaf of the royal palm about 8 inches wide be cut, folded lengthwise to form a canal, and then tied around the tree under the incision, the bark canal carrying the latex down into the pail used for collecting. According to his experiments, if the tapping is done at the full of the moon the tree gives more latex, and the intervals between the tappings should be from 20 to 30 days, which means that the larger trees can be tapped once, four to six times during the dry season. No tapping should be done during the rainy season, which lasts about six months, he advises, the morning tapings, as do the planters of rubber in the region of the large mangrove No. 30 swamp, and the night tappings should be done at, in shallow pans, in the shade of the banana, and to be a rule, and possibly a law, of the province of Pinar del Rio, called by the natives "guano" and "palo bato." Undoubtedly these will be the best plan a year or two, and in the future to be adopted. There are many places where the *Castilla* grows. At Sta. Rita plantation, at Baracoa, Consuegra del Sur, at Baracoa, and a score of others, it has been planted, and sometimes planted in good soil, and sometimes in the poorest, and always growing in a thrifty manner.

The unfortunate part of the Cuban rubber industry is that to day there is only one producing plantation away down at the eastern end of the island, and the attention is paid to coffee, cacao, and other crops, and no records of rubber are obtainable. This plantation is known as

Campeo and is owned by Sr. Juan de los Rios. It is situated some 10 miles from the city of Santiago and in a section where the land is exceedingly rich and well adapted for *Castilla* cultivation.

I spent a long time trying to get a touch of the Central American *Castilla* Co. of Cuba, who in 1903 invaded the island with more than a half a million *Hevea* seeds and a glowing prospectus. They were to at once plant a large tract near Trinidad, Santa Clara province, in south central Cuba. It may be all planted and the trees producing, but I could find no one who

knew about it. I think I mentioned Edward A. Kummel, who introduced me to the secretary of agriculture. He was formerly manager of the Batavia Co. in Mexico and was so much a believer in the future of Cuba that he started the Ocean Beach Fruit Lands Co., at Guadana bay, in the province of Pinar del Rio. Here is already a flourishing American community, the colonists planting chiefly oranges, grape fruits, etc. Mr. Kummel, always a believer in rubber, got 2,000 healthy *Castilla* plants started, when the cyclone that everybody in Cuba knows about came along and raised the river so high that all but a few dozen of his plants were swept away. Not at all discouraged, however, he is starting over again, and will undoubtedly in time have some excellent rubber. My friend Kummel also called my attention to the planting of *Cecropia* rubber 35 miles outside of Havana, at Caminito, where there is a small American colony, but the cyclone is said to have wiped this out. By the way, I do not want to give the impression that Cuba has many cyclones, for she does not, and half as many as the United States has of pests, and there is no danger of their seriously interfering with the planting of rubber of any sort.

Of course the most pertinent questions to the prospective planter are those of acquiring land and the supply of labor. As far as I can see there is no trouble on either score. The government at the present time, as I understand it, is not selling



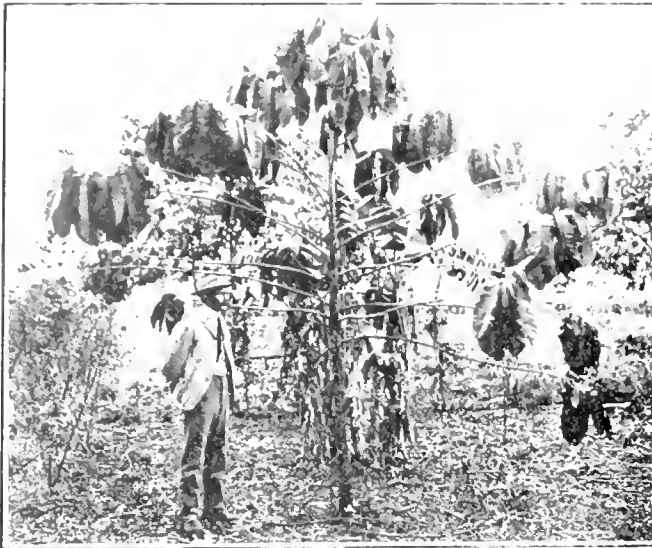
FIG. 1. The Growth of "Ficus" (X 1/2) Plant.



"CHRYSOPHYLLUM CAIMITI"



FIG. 2. Rubber Plantation, Santa Clara, Cuba.



THREE YEAR OLD "CASILLO FLANCA,"
[Habitat of E. Torres, Cienfuegos, Cuba.]

a land but the railroad companies have large holdings which they are more than ready to part with on reasonable terms to settlers. In addition to this there are private lands that can be got very cheaply. What labor around the city is costly, away from there it is cheap. Where it is abundant, day wages are about 80 cents (Spanish silver), and where it is scarce, about \$1 a day. During the sugar season on the plantation wages average about \$1 a day, or what is more generally done, the laborers are engaged by the month, a foreman drawing \$45, while a day laborer gets \$24 a month. The average cost of living for the laborer is about \$12 a month. According to the secretary of agriculture, and from my own observation, I should say the mountain valleys in the eastern end of the island, where there is a great amount of virgin soil, are the best parts for cultivation.

Incidentally, it is well to remember that Cuba is a white man's country from one end to the other, that it is wonderfully healthy, that the climate is delightful, and that the insect pests are not nearly so bad as they are in most subtropical countries. Then too, there are no poisonous reptiles, and no beasts of prey.

One of the first things the tropical planter inquires about is the rainfall. Perhaps as fair an annual average as the records of the island affords was that taken for the year 1905, which runs about as follows: The western province, Pinar del Rio, had from 60 to 80 inches; Havana province from 40 to 60, except a

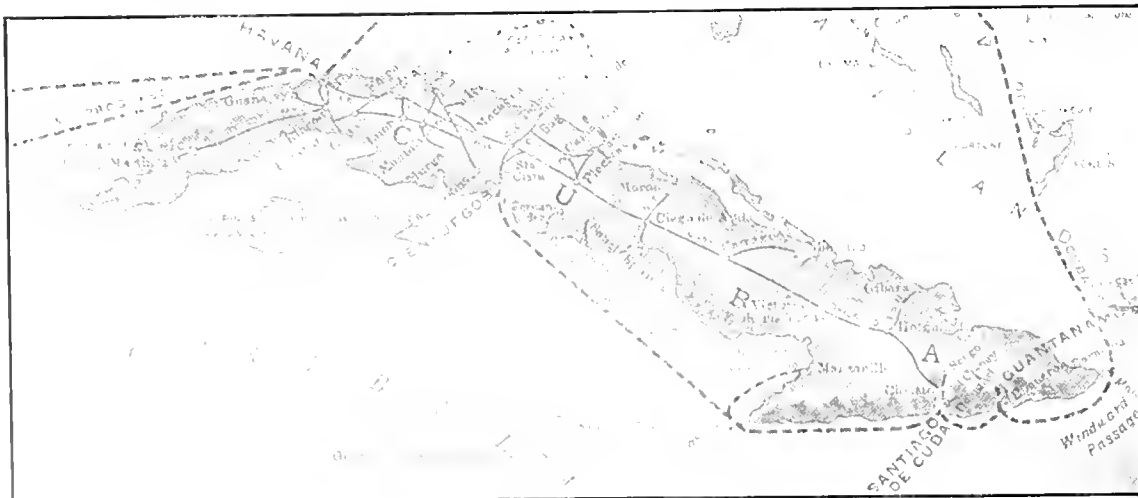
small portion of the extreme north, which enjoyed from 60 to 80 inches; Matanzas had 40 to 60; the western half of Santa Clara province had from 60 to 80, and the eastern half 40 to 60; Camaguey province had from 60 to 80, while the province of Santiago de Cuba had from 40 to 60. The mean annual temperature of the island is 70.14° F. July and August are the hottest months, with a mean temperature of 81.14° F. The coolest month is January, with a mean temperature of 60.98° F.

This exceedingly equable temperature is due in part to the shape of the island, which, although it is in area of the size of New York state, is as long as from New York city to Cincinnati, and everywhere less than 100 miles wide. Incidentally, it is only 100 miles from Key West to Havana, and when the Flagler railroad to Key West is finished a very short sea trip will enable all America to reach it. Of the 30,000,000 acres of the island there are about 10 per cent under cultivation, and it is roughly estimated that there are still 20,000,000 acres of fertile land, which would lead one to believe that there is still some room for rubber. Of course, sugar is the greatest crop, with tobacco second, but almost anything that will grow in temperate zones will grow there, with the exception of apples.

The attitude of the people in Cuba toward the American was something interested me exceedingly. I found that without exception the business men of whatever nationality were a unit in desiring American control. The only persons who seem suspicious are the blacks, and only the idle and shiftless among them. Of course, American soldiers were everywhere in evidence, as were American tourists, land owners, and business men. The soldiers as a rule went about unarmed, and the general belief was that they would be withdrawn in July. This, however, was always followed by the added information that once they were gone a revolution would be started and their presence again demanded, when the occupation would be permanent. Both the Cubans and Spaniards believe fully in the future of the island, once it is brought under American control. Indeed, when one considers the history of this most fertile of all lands and learns of the hundreds of millions of dollars the Spanish took away without giving anything in return, still leaving the island fairly prosperous, it is plain that, given a stable government, it will be one of the richest and most delightful spots in the whole Western world. The better class of Cubans are exceedingly thrifty and alert, and are good business men. They have the Latin-American vivacity, but are the most temperate of people. The only heavy drinkers appeared to be the strangers who drop in for a short visit or who have not been long enough in Cuba to know what a disgrace it is to be seen drunk.

I should like to tell in detail of my visits to Camaguey and Morro, to interesting cities like Matanzas, of adventures in the

caves of Bellamar, of viewing the brilliant Sunday carnivals, and getting thrilled with the national game "jai alai," but everybody sees these things and everybody goes to Cuba, or at least, every American will within the next decade, and unless I miss my guess, some of them will stay and plant rubber there.



MAP OF THE ISLAND OF CUBA.

The Late Arthur Winship Clapp.

PROBABLY no man was more widely known in the American rubber trade than Mr. Arthur W. Clapp, late treasurer of The E. H. Clapp Rubber Co. The news of his death, which occurred April 6, at the Hotel Lenox, Boston, came as a great shock to even those who were closest to him. He was ill only a short time, although for some two years past he has been slightly ailing. At the same time, with his magnificent physique and healthy appearance, it did not seem possible that he could so soon fall a victim to disease. Mr. Clapp was only 48 years old at the time of his death, and had been identified with the rubber trade since he was 17.

After his graduation from the public schools in Boston, Mr. Clapp went to work for his brother, the late Eugene H. Clapp, at the rubber reclaiming works at Hanover, Massachusetts. Later he took over the sale of the product and traveled all over the United States, wherever rubber factories were located, and became not only well known in the trade, but much respected. At the time of his brother's death, in 1862, he took charge of the business, not only of rubber reclaiming, but the very large interests in pulp mills in Maine which had been created by his brother's energy. He became treasurer of The E. H. Clapp Rubber Co., and also of the Penobscot Chemical Fibre Co. At the time of his decease he was active in both of these large corporations.

He was also president of the Rubber Manufacturers' Mutual Insurance Co. At the time of the formation of the New England Rubber Club he was one of its enthusiastic founders, and at one time served on the board of directors. For relaxation, Mr. Clapp was a great lover of the ocean, and his yacht *Harriet*, which he kept in commission for a number of years, was one of the finest that went out of Boston harbor. He was treasurer of Massachusetts Lodge E, and A. M., one of the oldest lodges in the United States; and a member of Roxbury Council, Mt. Vernon Chapter (at Roxbury), and Joseph Warren Commandery (at Roxbury). He was also a member of many clubs, among them the Algonquin Club, and was a member of the Ancient and Honorable Artillery Company of Boston. The funeral services took place at the house of his nephew, Eugene H. Clapp, No. 400 Beacon street, Boston, on the afternoon of Tuesday, April 9, and were largely attended.

Masonic services were conducted by the Massachusetts Lodge, the Rev. Edward A. Chase, chaplain. The Rev. Parris F. Fowell, of the Wellesley Hills Congregational Church, assisted, as did the Adelphi Quartette. The honorary pallbearers were James Bennett Forsyth, C. H. Delano, C. E. Brush, Benjamin Fort, William A. Paine and C. D. Annable. The rubber trade of New England and New York was well represented. Among the floral tributes, which were particularly beautiful and numerous, were those from the New England Rubber Club, the Rubber Manufacturers' Mutual Insurance Co., Massachusetts Lodge, the Penobscot Chemical Fibre Co., the directors of the Penobscot Company, the Rubber Reclaimers' Club, and individual members of the Algonquin Club, and many others who were personal or business friends. The interment was in the family lot at Mt. Auburn Cemetery.

THE NEW ENGLAND RUBBER CLUB.

Whereas, Our mutual and fellow member ARTHUR W. CLAPP has been stricken with death, and the members of the New England Rubber Club, as a last tribute to his worth, resolve to do the following:

Resolved, That this Association, together with the industry in which he was for years an active worker, has suffered a great loss.

Resolved, That his honest, fearless, friendly personality, and his instant condemnation of evil, and his true appreciation of good, made of him one whom his associates will treasure and spare and whom all will truly mourn.

Resolved, That this Association express to members of the Club our heartfelt sympathy in the great loss they have sustained.

Resolved, That an engrossed copy of these resolutions be sent to his family, and that they also be spread upon the record of this Club.

A. W. STEEDMAN,
E. L. WAIDROOD,
GEO. P. WHITE, FOR
Committee on Resolutions.



ARTHUR WINSHIP CLAPP

His rubber reclaiming business at Hanover, Mass., was begun in 1871. At the late Eugene H. Clapp, after having consulted with Mr. James Bennett Forsyth, of the Boston Belting Co., in regard to the prospective demand for a good reclaimed stock. Mr. Clapp perfected a process for removing fiber from ground rubber by means of an air blast, and the first order filled was for Mr. Forsyth. The business prospered from the beginning, and was the foundation of the fortune left by Mr. Clapp at his death, in 1892. Meanwhile he had become interested in numerous other enterprises, including the paper manufacture, and was a director in 29 corporations, of which he was president of six. Upon his death the reclaiming business was incorporated as The E. H. Clapp Rubber Co., which style has since been retained. Eugene H. Clapp, it may be added, was one of the founders of the Rubber Manufacturers' Mutual Insurance Co. The president of the rubber company today is E. H. Clapp, a son of the founder.

OBITUARY NOTES.

GEORGE W. LINSOIT, of The Hyde Park Rubber Co. (Hyde Park, Massachusetts), died suddenly of heart failure at his home, on February 8. He was born at Woburn, Massachusetts, on May 6, 1843, and was educated in the public schools. In 1862 he enlisted in the National Rangers, Company K, 11th North Massachusetts Volunteers, with whom he served until the close of the Civil War. For 20 years he was connected with S. K. Lo & Co., Boston Gossamer Rubber Co., latterly as their general sales manager. On Mr. Linsoit's retiring from business, Mr. Linsoit was for a while engaged in the real estate business, but he had purchased an interest in The Hyde Park Rubber Co. His funeral was attended by many of his trade associates.

The Textile Finishing Machinery Co., Providence, Rhode Island, announce the death, on March 18, of HENRY ANTHONY DUNN, their secretary and treasurer.

THE RUBBER TIRE FIELD.

A TIRE CUSTOMS DECISION.

The protest of the Auto Import Co. (New York) and others, against the payment of duties on automobiles as an entirety on the ground that the tires should be admitted as manufactures of india-rubber, the rate on which is lower—has been overruled by the United States general appraisers, in a decision which upholds the collector of customs at New York. The rate on automobiles is 45 per cent. *ad valorem*; that on manufactures of india-rubber, 30 per cent. In the cases under review, the decision said, "The tires accompany each machine; are packed in the same case with it; they are of the particular size for and are intended to be used on it, and without them the machine would be practically useless." The decision added: "Bulky machines are usually imported in a knocked down condition—any other mode of shipping them is impracticable—but they are nevertheless entireties and dutiable as such just as if they arrived set up."

The board of appraisers were unable to see why the tires forming part of a given automobile should be admitted at a rate of duty apart from that assessed against automobiles, any more than other parts—wooden bodies, leather or cloth upholstery or chains, bolts, or nuts—all of which materials are covered by provisions of the tariff law equally specific with that for manufactures of india-rubber.

It may be of interest in this connection to note that 1,205 automobiles were imported into the United States during 1906, presumably each equipped with tires. If the contention of the importers had prevailed, it would affect the import duty on about 120 sets of tires each month.

TRENTON INNER TUBES.

A distinctive feature of the inner tubes for automobile tires made by the Trenton Rubber Manufacturing Co. is their lack of porosity, resulting from a special treatment of the rubber which has led to some remarkable records in the way of long runs on tires equipped with these tubes, without reinflation being necessary. Two motor cars owned in Trenton and fitted with the "Trenton inner tube" have been run 10,000 miles each with a single inflation. The process referred to adds to the strength and durability of these tubes, in addition to the quality of retaining air.

EMPIRE AUTOMOBILE TIRE.

The Empire automobile tire is cured in one operation in open steel. This method permits the fabric to retain its full original strength, while making the rubber tough, elastic, and durable.



FIG. 1.—The tread of the Empire tire.

The tread of the Empire tire is the preferred style. The factory of the company is at New Jersey. Another factory of this factory is the "Trenton inner tube."

THIRTY-EIGHT MILES OF BUGGY TIRES.

The rubber tires supplied to the Pontiac Buggy Co. (Akron, Ohio) are made by the Pontiac Buggy Co.

(Pontiac, Michigan), embraced 450 reels, holding 202,500 feet of tire stock, from 34-inch to 118-inch in size. This was probably the largest shipment of such goods ever made at one time to one concern. The total length of tire stock was more than 38 miles. The Pontiac Buggy Co. makes vehicles with wheels of different sizes, one size requiring 41 feet of tires for four wheels; another size 46 feet, and a third, 58 feet per set. Taking 46 feet as the average, the carload of rubber would equip 4,400 buggies with tires.

DUNLOP TIRE PROFITS.

At the annual meeting of the Dunlop Pneumatic Tyre Co., Limited (London, March 29), the reports showed profits during the business year, from all the Dunlop undertakings, of £226,303 7s. 7d. The profits for the preceding year were £146,711. These figures are much lower than for some of the earlier years of the company, but during the last two years, owing to the expiry of their patents, the company has not had any income from royalties. Their principal subsidiary company is the Dunlop Rubber Co., Limited, engaged in manufacturing, at Birmingham, and the earnings of this constituted the larger part of the totals given above. Harvey Du Cros, M. P., the chairman, informed the shareholders that the demand for Dunlop cycle tires was larger than ever, the production of cycles was larger than ever, and that their motor tire production exceeded that of all other British makers combined. He asserted that no foreign cycle tires had ever gained a footing in the British market. Dividends: 5 per cent. on the preference, 8 per cent. on the ordinary and 5 per cent. on the deferred shares. It is to be noted that the "parent" company's trading was conducted at a slight actual loss, the profits having been derived from the subsidiary companies.

TIRE MISCELLANY.

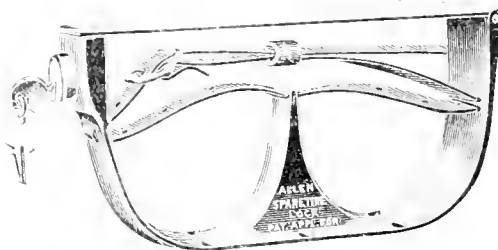
In selecting the name "Troubleless" for their latest type of detachable tire, The Goodyear Tire and Rubber Co. (Akron, Ohio) have hit upon something that cannot fail to appeal to every motorist of experience.

The Continental Caoutchouc Co. (New York) are making the published statement that they fear only one competitor—"Lack of Knowledge." General Manager Gilbert does not specify whether he is the possessor of this "lack," whether he lacks this lack, or whether the luckless public does the lacking.

The Chase Motor Truck Co. (Syracuse, New York) now own a complete tire repair outfit, which they will use in connection with their constantly growing business.

The Western Rubber and Supply Co. have been incorporated to handle the G. & J. Fire Co. products at Denver, Colorado, with a location at No. 1010 South Main street. Guy West is the house manager.

H. & F. Mesinger Manufacturing Co. (No. 1801 First avenue, New York) are meeting with success in marketing an all-leather automobile tire; that is, everything is leather except the rubber inner tube. They may be obtained with the tread formed of steel plates fastened to the tire with special screws.



ALLEN TIRE LOCK—A PREVENTIVE OF PUNCTURES.

It is holding two 3-inch shoes. Made of Parsons's manganese bronze. The Allen Auto Specialty Co., New York.]

New Goods and Specialties in the Market.

COMFORT SLEEPING POCKET.

THIS pocket, which is quite different from sleeping bag, consists of an air mattress, an air pillow and an outer covering. The air bed or foundation is covered top and bottom with felt, and fits into the bottom of the pocket. A

patented stay device reduces the thickness of the bed to three inches, which in turn reduces the amount of air in the bed to three feet; notwithstanding which the resilience is retained. The smaller the amount

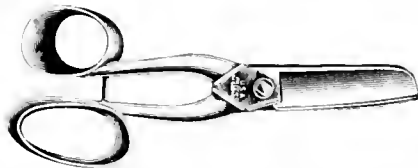


"COMFORT" SLEEPING POCKET.

of air in a bed the easier it is to inflate it, and at the same time the warmth from the body more quickly warms the air. The bed is practically puncture proof, since cactus or thorns cannot penetrate the several thicknesses of felt. The foot pocket is also made of felt and extends only to the knees. The air pillow is 11x16 inches, covered with felt, and attached to the bed with snap buttons. The cover, which forms the "sleeping pocket," is wearproof duck, light, strong, durable, windproof and water-proof, and lined with light but warm felt. This cover is not a shapeless bag, but conforms to the body, thus doing away with all unnecessary bulk and air space. Over the shoulders it has a fullness of 65 inches, while over the feet the fullness is but 30 inches. This affords plenty of room in which to wrap oneself up in blankets or to move without getting out of the pocket. The only opening, on the front side, is closed with snap buttons on an overlap, making it materially air and water tight. For home use the air sack may be taken from the pocket, placed on a bench or cot, and a comfortable couch has been evolved. When deflated and rolled its weight is 18 pounds. It is made in two sizes, 27x75 inches and 30x75 inches. [Metropolitan Air Goods Co., Reading, Massachusetts.]

SHEARS FOR CUTTING RUBBER.

THE blades in ordinary scissors are transversely concave in side, slightly curved and twisted. The object of this blade formation of course is to ensure the perfect contact of the cutting edges during the process of manipulation. However, in the case



"UNIVERSAL" SHEARS.

of a thin knife blade, when used for cutting heavy materials such as leather, rubber, and the like, this causes a twist when it is passed through the material to be cut, and causes the blade to become blunted. In order to avoid this, the "Universal" shears have set given to but one blade, and that the supporting one, thus leaving the cutting blade perfectly flat and straight on its inner surface. Should the shears have to be employed for cutting concave parts, as occurs, for example, in the cutting of soles of boots, it would be preferable to curve the blades. This renders them suitable for cutting all possible forms

straight, concave and convex. It is, of course, further evident that the curve of the blades may be either to the right or to the left. Briefly, these shears are subject to the same modifications as are the ordinary shears. They consist of the combination of two blades, one of which, the cutter, is flat on its inner face and

the other transverse and curved. The curved blade is the pocket, which the cutter enters. The cutter is made of the finest quality of tool steel, and is tempered to a Rockwell hardness of 60. The pocket is made of the finest quality of tool steel, and is tempered to a Rockwell hardness of 60. The pocket is made of the finest quality of tool steel, and is tempered to a Rockwell hardness of 60.

SATIN RUBBER COATS AND CRAVENSITIES

DYING Fashion has decreed that a woman shall not be content to make the weather, but that rather she shall make the garments of the day. The consideration that has hitherto been accorded to the question there was nothing to be done on the part of the manufacturer and the furnisher but to fall into line. How general this has been done is evidenced by the magnificent displays that have been seen in the fashionable shops. Some of this season's novelties are marvels of beauty, to say nothing of the more practical poses which they so admirably serve. The first illustration is of a garment made from a fine quality of satin, with a leather-trimmed collar and cuffs and silk-lined yoke.



DOUBLE BREASTED SATIN RUBBER COAT.



CRAVENSITE RAIN COAT.

be seen, the skirt is unusually full, and the large Japanese sleeves make it a much admired model. It is made in brown, black, and navy blue, and in other colors to order. For evening wear and for driving it has its uses also. The other illustration is a cravenette raincoat. These coats are made in all the latest and most desirable colorings and are lined throughout with Skinner's silk. The lines by their symmetry and beauty at once show that these garments are tailor made, and one is almost tempted to say that they defy criticism. At all events they disprove the old New England tradition that one's oldest raiment must be doctored for the rainy day. The styles illustrated here have been chosen from the stock of C. J. Bailey & Co's Boylston Street store, Boston.

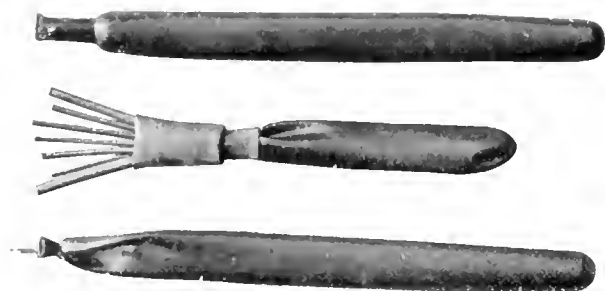
HEEL CUSHIONING DEVICE.

ESPECIALLY since the advent of the rubber shoe, there has been a number of devices for cushioning the heel of the shoe. Not only rubber has figured largely in the construction of these devices, but one of the latest inventions is a device consisting of three rounded metal pins welded to the sole of the shoe, and

connected with springs concealed in the middle of the heel. These springs in turn press upon a rubber lift, giving the resiliency which it is intended. This device is patented by John Sheehan, of New York City.

GOODRICH CATHETER BAG.

The devices for the proper care of all delicate instruments are quite as numerous as the instruments themselves. The part that rubber plays in both particulars is something noticeable, when even a casual enumeration is made. The catheter is one of the most delicate of instruments and hence needs correspondingly



COMMERCIAL CEMENT BLOCK BAY.


For handling. The Goodrich Catheter Bag is made of fine Para-rubber, with reinforced bottom and elongated neck, which can be securely closed by tying at the neck with a tape or string. For carrying catheters in an antiseptic solution this is a perfectly safe way as the bag, even when filled, is flexible. [The B. F. Goodrich Co., Akron, Ohio.]

A NEW PHYSICAL EXERCISER.

THE illustration relates to an exercising apparatus comprising elastic bands or cords, each provided at one end with a handle and at the other end with a foot attachment or stirrup, and a waist belt adjustable at the front and back and provided with guide rings for the elastic bands fixed on opposite sides of its front ends. There are means for adjusting the elastic bands to the stirrups and to the handles at the top. The waist belt is provided with means through which the elastic bands pass freely, and with means for varying the size of the felt without changing the position of the elastic bands relatively to the body of the user. A United States patent for this invention has been granted to Georg Muller. [Kolberger Ausalten fur 'Exerikultur Wilhelm Anhalt G. m. b H., Kolberg, Germany.]



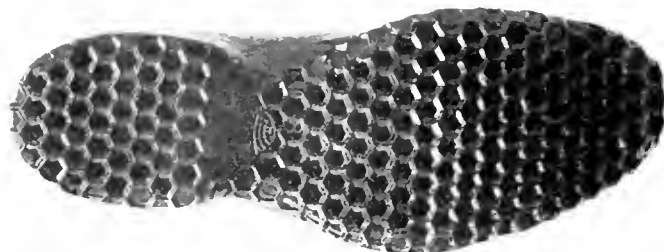
OVERSHOE CREEPER.



A NEW anti-slipping device for overshoes is a metallic creeper to be attached to the shank of the shoe, but normally it does not touch the ground. Above it is a clamping piece and a strip of flexible material on which is impressed a false leather sole sections. When it is desired to make the creeping effective, the false heel is brought into commission by being folded up on itself and then over upon the clamping piece. The pressure of the shank of the leather shoe upon the false heel forces the shank of the overshoe downward and brings the creeper in contact with the ground. This device has been patented by John H. Hunt, W. W.asket, Rhode Island.

TWO CANADIAN SHOE NOVELTIES.

Among the more recent novelties in rubber footwear are to be recorded two that have been introduced in Canada. First to be mentioned is the "Honeycomb" sole, illustrated herewith



"HONEYCOMB" SHOE SOLD

from a photograph, the object of which is to lessen liability to slip. This sole is applicable to any style of rubber footwear, but is suited particularly for sporting shoes—yachting, tennis, lacrosse and the like. The trade mark "Honeycomb" is registered. The second illustration relates to a patented device for



"ELECTRIC CONDUCTOR" SHOE SOLE.

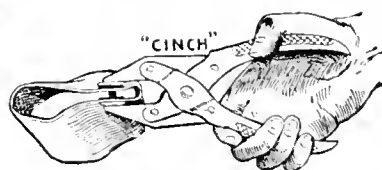
conducting electricity from the body to the ground, the means employed being the placing of tubular rivets in the heel and toe portions of the rubber sole. [The Berlin Rubber Manufacturing Co., Limited, Berlin, Ontario.]

THE CINCH REPAIR KIT.

ONE of the quickest methods for puncture repairs, and one for which the greater virtue of permanency is claimed for it, is that employed when using the "Cinch" tire repair kit. It requires no cement, no vulcanizing, no patchwork, no labor, no delay, and (it is claimed) no skill. The work is accomplished by means of a small rubber coated metal seal inserted in the puncture. The pointed end of the cutting tool—which is a part of the outfit—is pushed through the puncture and then the knurled wheel which



RUBBER COATED
SEAL FOR
PUNCTURES.



THE PLIERS IN USE.



TIRE SECTION, SHOWING PUNCTURE CLOSED.

carries the cutter down is screwed, thereby making a smooth hole. The ends of the wire opening tool are inserted in the hole and gripped there in order to stretch the opening with the lips outward sufficient to admit the seal. When this is inserted it should be seen that the convex side of the seal is on the outside and that the puncture is well within the seal. The pliers are then used to insure the security of the position of the seal, and after a generous application of soap-stone, the tube is ready for use. [Auto Goods Co., Boston]

- 33,480 (1905). Pneumatic tire [with protective tread of metal plates]. J. P. Le Grand, Paris.
 33,432 (1905). Golf ball. A. Urquhart, Edinburgh, and H. Hansen, Leith.
 33,714 (1905). Pneumatic tire with anti-skidding band. E. C. Robinson, Durham.
 34,414 (1905). Elastic tire [with core of waste sponge or the like]. M. Rossmann, Paris, France.
 35,181 (1905). Pneumatic tire [with leather jacket]. J. G. Grose, Northampton.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 13, 1907.]

- 34,112 (1905). Tire protective covering of ramie, hemp or other like fibers. E. Bardey and L. Clere, trading as Societe Bardey, Clere & Co., and B. Desouches, all of Paris, France.
 35,105 (1905). Tire inflater operated by the motor car while traveling. C. Nielsen, Copenhagen, Denmark.
 35,810 (1905). Tubeless pneumatic tire. J. D. Root, London.
 35,810 (1905). Machine for making tire fabric [such as used in the fabric "cord" tire]. T. and R. Shoper, Devizes, Wiltshire.
 35,810 (1905). Run for resilient tire [with the detachable flange]. C. I. Hutchingson, Durham.
 35,810 (1905). Pneumatic tire with studded tread. E. W. Coleman and A. J. Glidden, London.
 35,810 (1905). Golf club with rubber sticking face. W. B. Hartledge, Seaford.
 35,810 (1905). Spring wheel [with rubber seat for the felloe]. J. Davies and H. Payton, Birmingham.
 35,810 (1905). Spring wheel [having rubber buffers or rings within the rim]. W. Freakley, Hanley and R. Bell, Stoke-on-Trent.
 35,810 (1905). Pneumatic wheel [with rubber cushion in the interior, and solid rubber tire]. J. Partington, Saltaire, Yorkshire.
 35,810 (1905). Protective band of metal or leather for tire covers. C. S. Barrell, Boston.
 35,810 (1905). Elastic tire. [A series of metal springs, with rubber cover.] H. Kerngood, Baltimore, Maryland, and H. A. Taylor, New York city.
 35,810 (1905). Elastic tire. [A series of metal springs, with cover of rubbered canvas.] E. V. Belledin, Paris, France.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MARCH 20, 1907.]
 34,209 (1905). Heel protector. A. R. Huskisson and G. Morton, Blackley, near Manchester.
 34,305 (1905). Hose coupling. L. R. Nelson and J. R. Morrison, Boulder, Colorado.
 34,329 (1905). Elastic tire [of leather or rubber sections, in circumferential compression]. M. Lamy, Paris.
 34,346 (1905). Portable vulcanizer [particularly for pneumatic tires]. H. H. Frost, London.
 34,409 (1905). Wheel rim [formed in two parts in order to attach rubber tires with embedded metallic bands and with oppositely coned bases]. A. von Lude, Frankfort-on-Main, Germany.
 34,437 (1905). Belt [having corrugated inner rubber strip to keep a shirt waist in place]. J. Eisman, Toronto, Can.
 34,472 (1905). Pneumatic tire [with leather protective strip]. I. Watts, Great Grimsby.
 34,517 (1905). Inner sole for boots. H. A. Silver, London.
 34,547 (1905). Pneumatic eraser. [Described in THE INDIA RUBBER WORLD, May 1, 1906—page 263.] C. E. McGill, Owensboro, Kentucky.
 34,569 (1905). India-rubber studs for the soles and heels of boots; also for use as billiard tips, door stops and insulating studs. T. H. Collingbourne, Blackburn, Lancashire.
 34,622 (1905). Elastic or plastic compound [to be made from the latex of *Sapota Mulleri*, for insulation or waterproofing, alone or in connection with india-rubber]. H. E. Kershaw, Kenley, Surrey.
 34,626 (1905). Spring wheel [rim composed of a series of metal studs, supported on a rubber cushion]. W. Rendall, London.
 34,758 (1905). Pneumatic tire [with puncture proof shield of small steel plates]. F. Woodgates, Triverton, Devonshire.

- 369,261 (July 3). I. Bulgheroni. Elastic material for vehicle tires.
 369,297 (July 21). M. Manner. Spring wheel, with interior pneumatic chamber.
 369,315 (Aug. 29). Symons and Humphrey. Composition having rubber as a base, to replace rubber in various uses.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]



A SPRING WHEEL OF THE SUSPENSION TYPE,
SHOD WITH SOLID RUBBER TIRE.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha for the month of February, 1907, and for the first eight months of five calendar years:

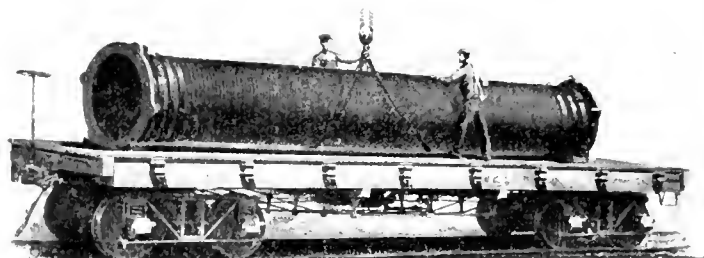
MONTHS	Belting Packing and Hose.	Boots and Shoes.	All Other Rubber.	Total.
February 1907	\$100,952	\$50,855	\$280,610	\$432,417
July-January 1907	601,286	858,714	2,040,592	3,500,592
Total 1906-07	\$801,238	\$909,569	\$2,321,201	\$4,031,008
Total 1905-06	834,554	1,353,104	1,830,312	3,017,970
Total 1904-05	501,309	1,018,122	1,541,217	3,060,648
Total 1903-04	506,536	901,017	1,580,720	3,088,273
Total 1902-03	524,847	912,855	1,407,722	2,845,424

Exports of reclaimed rubber for the past eight months amounted in value to \$431,663.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION)

- 38,771 (Aug. 2, 1906). M. Hahn. Spring wheel.
 38,611 (Aug. 3). Michelin et Cie. Pneumatic tire with removable rim.
 38,614 (Aug. 3). Michelin et Cie. Pneumatic tire with removable rim.
 38,615 (Aug. 3). Michelin et Cie. Pneumatic tire with removable rim.
 38,674 (Aug. 7). P. La Force. Elastic tire.
 38,656 (Aug. 6). Sabourin. Spring wheel with interior pneumatic chamber.
 38,727 (Aug. 9). Christoffe and Monteyne. System of wheels with flexible tires.
 38,977 (Aug. 17). A. G. Rigot. Tire inner tube with multiple sections.
 38,638 (Aug. 6). A. Foelsing. Preparation of pure rubber.
 39,116 (July 31). C. Ziegler. Impermeable tire.
 39,116 (Aug. 1). P. P. Monand. Impermeable tire.



LARGE SECTION HOSE, MADE BY THE NEW YORK BELTING AND
PACKING CO., LIMITED.

Rubber Goods Manufacturing Co.'s Annual.

THE eighth annual meeting of shareholders of the Rubber Goods Manufacturing Co., on April 11, at the registered offices of the company in Jersey City, New Jersey, may prove the last in the history of the corporation. As has been reported in these pages, the shares of the company having been acquired by the United States Rubber Co., its liquidation has been determined upon. The annual reports of the officers of the Rubber Goods were read and approved, and are here given in full:

PRESIDENT DALE'S REPORT.

TO THE STOCKHOLDERS OF THE RUBBER GOODS MANUFACTURING CO.: The annual report of the treasurer of your company, submitted herewith, shows this year quite a large increase in the volume of business, as well as in the profits over all preceding years.

This good showing of the company is largely attributable to the advantages derived from the close association of this company with the United States Rubber Co. through the latter's large holding of stock in this company. During the past year the selling forces and distributing agencies of the United States Rubber Co., both in this country and in Europe, have been availed of for the marketing of the products of the subsidiary companies of the Rubber Goods Manufacturing Co., thus affording to your company a greatly enlarged selling organization without additional expense.

Another important advantage in connection with this company's co-operation with the United States Rubber Co. is in the purchase of crude rubber through the joint ownership of the General Rubber Co. I stated in my last annual report that the benefits to be derived from this source warranted the expectation that your company and the United States Rubber Co. would occupy a position of unique advantage in this most important branch of the business. These expectations have been substantially realized, so that to-day it may be confidently stated that no other company in the world manufacturing rubber goods has such a well equipped organization for the obtaining of supplies of crude rubber; and it is believed that no other company is able to obtain a comparable advantage in the acquisition of its requirements of the crude material.

While, as above indicated, large benefits have already accrued to our company through its co-operation with the United States Rubber Co., there has not yet been time to realize the fullest possible measure of benefit. In this connection a committee has been appointed for the purpose of effecting the liquidation under the laws of New Jersey, where the company is incorporated, of the Rubber Goods Manufacturing Co., thus bringing our subsidiary companies into still closer relation with the United States Rubber Co.

The usual quarterly dividends of 134 per cent. each have been paid during the year on the preferred stock and a dividend of 1 per cent. has been paid on the common stock. The question of paying further dividends upon the common stock has been the subject of consideration by your board of directors, whose decision was that further dividends upon the common stock should be deferred for the present.

With the aid of the president of the United States Rubber Co. and Mr. Anthony N. Brady, your president has effected an amicable settlement of the controversy with the Pope Manufacturing Co., which has been in litigation during the past three years. The adjustment is deemed an equitable one and gives entire satisfaction to both parties, the result being that your company now has the Pope Manufacturing Co., one of the largest manufacturers of bicycles and automobiles in the country, as firm friends and customers.

The new plant of the Morgan & Wright Company at Detroit, Michigan, referred to in my last annual report, has been in complete operation since last summer and is, without doubt, the most modern and economical plant in the world for the manufacture of tires and miscellaneous rubber goods.

All the plants of the subsidiary companies of the Rubber Goods Manufacturing Co. have been maintained at the same high standard as in previous years, and in many instances large additions have been made in order to keep pace with increasing business.

THE MECHANICAL RUBBER GOODS manufactured by those of our subsidiary companies engaged in that branch of the business have established such a superiority that they are regarded in the trade as standard.

Your companies engaged in the manufacture of automobile and vehicle tires have made great advances, more than doubling in a few years their percentage of the total tire business of the country. This results largely from the fact that they have been pioneers in bringing out the more important improvements which have been made in the art—notably the "Midgley detachable rim," which was the first rim of its kind placed on the market, and the "Midgley wire grip" or "anti-skid," which is becoming very popular and finding a rapidly increasing sale. Besides these reasons, however, there is the fundamental one that the "Dunlop" and "Clincher" tires as manufactured by the Hartford, Morgan & Wright and G & J companies are not excelled by any other make, whether American or European.

Reports from subsidiary companies on business done since the close of their fiscal year, December 31, 1906, which is not covered in the reports appended, show that such companies have maintained the ratio of increased sales shown during the year covered by this report, and the orders for future delivery are greater than ever before; all of which would indicate no abatement of the past year's prosperity in the rubber business, at least so far as concerns the business of the Rubber Goods Manufacturing Co. Respectfully submitted,

CHARLES H. DALE, President.

Jersey City, New Jersey, April 11, 1907.

BALANCE SHEET.

ASSETS.		Mar. 31, '07.	Mar. 31, '06.
Cash	\$	483,819.02	\$ 383,593.65
Mortgage notes (for property sold)		18,000.00	10,000.00
Accounts receivable.....		88,709.21	7,792.26
Investments, stocks of allied companies.....		27,030,722.15	27,458,779.69
Total assets.....	\$	28,230,251.28	\$27,860,165.60
LIABILITIES.		Mar. 31, '07.	Mar. 31, '06.
Preferred stock.....	\$	10,351,400.00	\$10,351,400.00
Common stock.....		16,941,700.00	16,941,700.00
Working capital.....		576,095.00	
Bills payable.....		100,000.00	
Total liabilities.....	\$	28,020,105.00	\$27,293,100.00
Surplus	\$	201,085.68	\$ 57,065.60
INCOME AND DISBURSEMENTS FOR YEAR ENDING MARCH 31, 1907.			
Income from dividends declared by allied companies for year.....			\$1,226,248.98
Less total expenses for year.....			131,148.30
Net income.....			\$1,095,100.68
Four dividends paid to March 31, 1907.			
Preferred	\$	724,508.00	
One dividend paid to March 31, 1907.			
Common		1,047.00	\$9,015.00
Balance surplus.....	\$	201,085.68	

SYNOPSIS OF OPERATIONS OF ALLIED COMPANIES FOR YEARS ENDING
DECEMBER 31.

	1906.	1905.
Sales.....	\$19,737,120.81	\$17,962,453.00
Gross earnings.....	2,049,458.85	2,292,035.77
Net balance of profit.....	2,004,484.20	1,358,485.29
Dividends declared for year.....	41,276,286.98	6985,835.91
[a. to March 31, 1907. b. to March 31, 1906.]		

The annual election resulted in the board of directors being continued without change, as follows:

Charles H. Dale,	Ernest Hopkinson,	Charles A. Hunter,
Frank W. Lolly,	Arthur L. Kelley,	Samuel P. Colt,
Anthony N. Brady,	Lester Leland,	John J. Watson, Jr.

On a later date the board elected as the officers of the company: Charles H. Dale, president; Lester Leland and Charles A. Hunter, vice-presidents; John J. Watson, Jr., treasurer; Samuel Morris, secretary, and John D. Garberry and James McGuffog, each with the title assistant treasurer and assistant secretary.

The financial reports were audited by Henry T. Bragg, C. P. A.

AN HISTORICAL SUMMARY.

The Rubber Good Manufacturing Co. was in a sense an outgrowth from The Mechanical Rubber Co., formed under the laws of New Jersey in 1892 for the merger of five important and successful concerns manufacturing rubber goods. On January 20, 1899, articles of incorporation were filed in New Jersey for the Rubber Goods Manufacturing Co., which combined the holdings of The Mechanical Rubber Co. with six other mechanical goods factories which, prior to that time, had been operated independently. Other companies were added later. The enlarged company had authority under its charter to issue stock to the extent of \$50,000,000, but the whole was never required for the acquisition of the companies that came under its control. The organization of the Rubber Goods Manufacturing Co. was completed May 4, 1899, at which time it was announced that shares to the extent of \$17,536,000 had been issued. Gradually the amount was increased, as indicated in certain annual reports, as follows:

	Preferred.	Common.	Total.
Original issue.....	\$ 9,196,000	\$11,840,000	\$18,036,000
First annual report.....	1,424,700	3,294,000	4,719,300
Second annual report.....	430,100	1,807,100	2,237,200
Seventh annual report.....	2,300,000		2,300,000

Total, March 31, 1907.....\$10,351,400 \$16,941,700 \$27,293,100

The companies subsidiary to the Rubber Goods Manufacturing Co. at present are:

Mechanical Rubber Co. (holding company).
Peerless Rubber Manufacturing Co.
*New York Belting and Packing Co., Limited.
*Fabric Fire Hose Co.
Hartford Rubber Works Co.
Morgan & Wright.
Indianapolis Rubber Co.
India Rubber Co.
Sawyer Belting Co.
Mechanical Fabric Co.
*Stoughton Rubber Co.
Sandy Hook Reclaiming Works.
G & J Tire Co.
*Chicago Rubber Works.
*Cleveland Rubber Co.
American Dunlop Tire Co.
Single Tube Automobile and Bicycle Tire Co.
Midgley Manufacturing Co.

The companies indicated by (*) were included in The Mechanical Rubber Co. The Peoria Rubber and Manufacturing Co., acquired in 1899, was liquidated soon after. The Single Tube company is the holding company for the single tube tire patents, and through other companies named the Rubber Goods Manufacturing Co. holds the "Clincher" and Dunlop tire patents in the United States and controls the Midgley detachable rim for motor tires. They have also a license for manufacturing solid tires under the Grant patent. A few figures will indicate the im-

portance of the operations of the Rubber Goods Manufacturing Co. to date:

Sales 1900.....	\$13,364,000
Sales 1901.....	14,348,048
Sales 1902.....	13,000,320
Sales 1903.....	14,310,752
Sales 1904.....	14,550,280
Sales 1905.....	17,062,453
Sales 1906.....	19,737,121

The official statements of dividends actually disbursed within the several fiscal periods afford these figures:

1899.....	\$ 799,624.83
1900.....	1,434,093.73
1901.....	1,400,948.00
1902 (to March 31, 1903).....	1,678,723.64
1903 (to March 31, 1904).....	938,860.72
1904 (to March 31, 1905).....	593,598.00
1905 (to March 31, 1906).....	679,008.00
1906 (to March 31, 1907).....	894,015.65

Total.....\$8,428,561.02

Of the original signers of the incorporation papers of the Rubber Goods Manufacturing Co. the only one now identified with the company is Charles H. Dale, who has been a director in the company from the beginning and, since 1903, president.

During 1905 negotiations were begun which resulted in the merger of the Rubber Goods Manufacturing Co. with the United States Rubber Co., through the issue of additional capital shares of the latter in exchange for the shares of the Rubber Goods company, and the logical outcome is the liquidation of the Rubber Goods company now pending. The capital outstanding of the United States Rubber Co. is \$35,067,000 in first preferred stock, \$9,580,300 in second preferred, and \$25,000,000 in common stock; total, \$60,653,300, of an authorized issue of \$75,000,000.

WANTS AND INQUIRIES

[301] WE are asked to put a correspondent in touch with makers of submarine diving outfits, with pump and hose complete.

[302] A manufacturing company wishes names and addresses of importers and dealers in chicle gum.

[303] The names of manufacturers of single and double texture rubber cloth are asked for by one of our readers. This cloth is desired in quantities of from 300 to 1,000 yards.

[304] A Western company wishes to know purchasers of pumice stone among rubber manufacturers.

[305] Small rubber-covered brass staples are desired by an Ohio manufacturing company.

[306] A correspondent wishes to know if it is practical to put the heating pipes in a shoe vulcanizer in the top of the vulcanizer instead of the bottom, as is the usual custom.

[307] A reader would like to communicate with mechanical rubber goods manufacturers who do their own reclaiming from scrap rubber.

[308] A foreign correspondent would like the addresses of American manufacturers of strips of camel's hair belting for lining the brake bands of cycles and motor cars.

[309] A Canadian company would like to correspond with a manufacturer of small nails used in the making of rubber-headed nails. Correspondence with a firm manufacturing small plain tacks (steel), not with brass heads, is particularly desired.

[400] Information is desired as to the production, throughout the country, of dental dam, in pounds or yards.

[401] Any information about the Mexican Mining and Plantation Co. would be welcomed by a reader. Its officers, location, etc., figure in the information desired.

[402] A reader wishes to know the names of companies that can furnish cashmerette, black and red fleece or shag, and all kinds of net, such as is used in the manufacture of arctics and gum shoes.



ARTHUR W. STEDMAN.



HENRY C. PEARSON.



FREDERICK H. JONES.

NEW ENGLAND RUBBER CLUB'S ANNUAL.

THE eighth annual meeting of the New England Rubber Club was held on Monday evening, April 15, at the American House, Boston. The Club's entertainment committee had arranged for a "Smoker" and vaudeville entertainment for this occasion, the announcement for which was recalled in consequence of the sudden death of Mr. Arthur W. Clapp, a member. President Alexander M. Paul occupied the chair, and the annual reports were read and approved.

Treasurer's Report.

RECEIPTS.		
Bank balance April 17, 1906.....		\$786.34
For initiations.....	\$80.00	
For dues.....	1,453.75	
For assessments.....	2,225.92	3,459.67
Total		\$4,240.01
DISBURSEMENTS.		
For dinners.....	\$2,162.68	
Sundries as per vouchers.....	1,254.83	\$3,417.51
Bank balance and cash on hand April 15, 1907		828.50
Total		\$4,240.01

FREDERICK H. JONES, Treasurer.

Report of the Secretary.

The completion of the seventh year of the Club's existence finds it prosperous financially, and with a membership of two hundred and twenty-seven.

Three public functions, a "Smoker," an "Outing" and a "Midwinter Dinner," are in retrospect. All were well attended and thoroughly enjoyed. At the first named, Richard Arthur told of a ten thousand mile trip up the Amazon. At the Outing we enjoyed the presence and the oratory of the regular army; while at the Midwinter Dinner, Vice-President Byrnes and others interested us in the problems of transportation. Around each of these dinners cluster pleasant memories that will long remain.

During the year the Club has been elected to membership in the State Board of Trade. Our delegates to that organization are A. M. Paul, A. W. Stedman and W. H. Gleason.

From them, Mr. Paul was chosen and elected to the board of vice-presidents of the body named.

Two of our founders and best known members have passed to the Great Beyond: George H. Forsyth and Arthur W. Clapp. We shall miss them at our meetings, and long cherish their memories.

The year in prospect, our eighth, opens well. There is no falling off in membership and the sense of comradeship that has ever been a feature of this Association grows stronger year by year—a good augury for continued interest and success. Respectfully submitted,

HENRY C. PEARSON, Secretary.

The annual election of officers and directors resulted in the choice of the following: Officers: Arthur W. Stedman, president; Henry C. Pearson, vice-president; Frederick H. Jones, treasurer; Robert L. Rice, secretary; Walter M. Farwell, assistant secretary. Directors: Costello C. Converse, Joseph Davol, Elisha S. Williams, Ira F. Burnham, George P. Whitmore, F. E. Wadbrook. The list of honorary vice-presidents now includes: The Hon. L. D. Apsley, the Hon. A. O. Bourn, Robert D. Evans, James Bennett Forsyth, George H. Hood, Henry C. Morse, John H. Flint and Alexander M. Paul.



ROBERT L. RICE.



WALTER M. FARWELL.

ALEXANDER M. PAUL.

ALEXANDER MACADAM PAUL is not at all ashamed of the fact that he was reared in Boston, the year of his birth being 1807. He was educated in the public schools and in the Boston Latin School. In 1885 he began his business career by working in the store of the Conant Rubber Co., then at No. 72 Federal street. He remained there for three years and then, still employed by the same company, took a position in their Hartford store, where he remained three years. In 1891 he went to Andover, New Jersey, and connected himself with the Standard Musical String Co. In 1896 he was a factor in amalgamating all of the factories making strings for musical instruments, the company being known as the National Musical String Co. Of this he was secretary and treasurer. In 1897 he built an up-to-date factory at New Brunswick, N. J., for this corporation, and two years later sold out his interests at a handsome profit.

In 1900 Mr. Paul became general manager of the Boston Woven Hose and Rubber Co., which position he has held up to this time with conspicuous success. When he took hold of this company the annual sales were about \$1,000,000; to-day they are more than \$3,000,000, and the business is exceedingly profitable. Mr. Paul is a gifted organizer, and when getting things into shape is a glutton for work.

Physically he is wonderfully strong, and not only has great executive capacity, but remarkable endurance. He is an enthusiastic sportsman, as far as shooting and fishing go, and while not specifically a club man, is a member of the Algonquin Club in Boston, and the New York Athletic Club. He is also one of the honorary vice presidents of the New England Rubber Club.

WHAT is now the Boston Woven Hose and Rubber Co. dates from 1880, in which year, under the name Boston Woven Hose Co., the manufacture of rubber lined, multiply-woven cotton hose was begun in a small way under a new process at Cambridge, Massachusetts. The company was composed of Colonel Theodore A. Dodge, as capitalist, and the late Robert E. Cowen, a practical machinist, who had assisted in the development of the special loom used. The first year's sales reached 15,000 feet of hose, after which the business expanded rapidly, and in 1884 the Boston Woven Hose Co. was incorporated with \$150,000 capital, J. Edwin Davis becoming associated with it. Gradually the production of other lines of rubber goods was taken on, and in 1891 the corporation style was changed to the Boston Woven Hose and Rubber Co. For many years the list of directors was unchanged—Messrs. Dodge, Cowen, and Davis, together with James N. Smith, now president of the company, and the late Rhodes Lockwood. In 1898, at a time when the bicycle tire trade was suffering a decline, the company, then very large makers of tires, became embarrassed, and for a time the factory

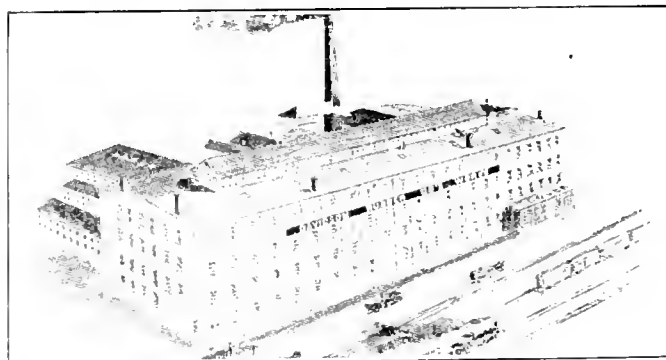
was operated by assignees. In the following year there was a reorganization, with a paid in capital of \$1,200,000, since when the company has had an uninterrupted career of success in the manufacture of all kinds of mechanical rubber goods.

* * *

RECENTLY Mr. Paul purchased the entire capital stock of the Davidson Rubber Co., since which time he has resigned the management of the Woven Hose company. The Davidson Rubber Co. takes its name from the late Dr. Herman E. Davidson (1815-1895), inventor of a notable improvement in rubber syringes, but who was never concerned in their manufacture. The patents were purchased just before 1860 by H. D. Lockwood, a nephew of Dr. Davidson, but until Goodyear's patent expired, in 1865, the rubber parts had to be purchased from licensed rubber manufacturers. Mr. Lockwood, with whom at various times his brothers were associated, then put in a rubber plant, and in 1868 the present factory, at Charlestown, Massachusetts, was built, though important additions have since been made to it. At various times, from 1858 until his death (in 1905), Rhodes Lockwood was interested in the business, and for some years conducted it alone. There were various co-partnerships, at different times, involving members of the Lockwood family, but all the while the trade name "Davidson Rubber Co." was used, and in 1904 the business was incorporated under that name, with Rhodes Lockwood president. The company manufactures a wide range of druggists' and stationers' sundries, and various other specialties.

AMERICAN CONGO INTERESTS.

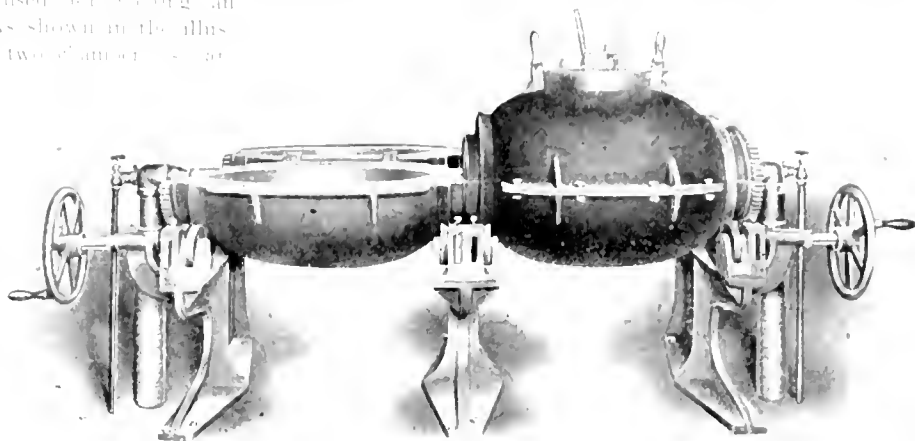
THE departure of the first expedition in the interest of the American Congo Co. to the region covered by their concession was noted in THE INDIA RUBBER WORLD for April 1 (page 218). The same group of capitalists, as has been stated already, are interested also in the Société Internationale Forestière et Minière du Congo, formed to exploit a larger concession than that of the American Congo Co. While the larger company's territory embraces, as is believed, mineral resources of great value, which are to be developed, the company will also be prepared to work any rubber which may be found within the limits of the concession. THE INDIA RUBBER WORLD is informed, on authority, that King Leopold is particularly desirous that the forest and mining company shall engage extensively in rubber planting. On May 30 a prospecting and exploring party of twelve will leave Belgium for the Luebo region, in the interest of this company, headed by Colonel R. Dorsey Mohun, an American, who has had much experience in Congo affairs, having been at times in the service of the Free State. Mr. S. H. Ball, of the United States Geological Survey, will also be in the party. The United States Geological Survey, will also be in the party. Mr. A. Chester Beatty has returned to the States.



WORKS OF THE DAVIDSON RUBBER CO.
[Recently purchased by Alexander M. Paul.]

ROCKWELL DOUBLE CHAMBER FURNACE.

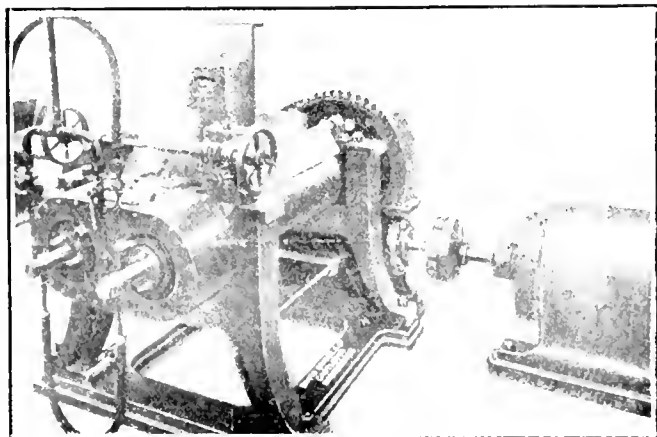
THE illustration relates to a metal melting furnace for copper, brass, bronze, aluminum, steel and iron, which has given special satisfaction in machine shops, and in a shop connected with one of the largest rubber factories in the country. In the case referred to, the furnace is used for casting an alum alloy for molds for rubber work. As shown in the illustration, this furnace is constructed with two chambers so arranged that they may be used alternately. The exhaust heat from the active or primary chamber goes into the other, thereby simultaneously melting in one chamber and heating the metal in the other to very near the melting point, with one burner and at no additional cost. Besides the economy involved, this makes melting practically continuous, permitting melts of various mixtures of metals to follow one another in rapid succession. This furnace is adapted to oil or gas fuel and the construction is such that there is very little heat lost or radiated. [Rockwell Engineering Co., No. 20 Cortlandt street, New York.]



WHILE ONE CHAMBER IS OPEN FOR RELINING THE OTHER CAN BE USED.

ELECTRIC DRIVES FOR RUBBER MACHINES.

NOTHING is more trying to the ordinary steam engine drive than a load which varies widely, running suddenly from light demands to a high maximum. The London Journal *Electricity* recently reported an instance where a rubber masticator run by a steam drive and becoming overloaded, made serious



SINGLE GEARED RUBBER MIXING AND SHEETING MACHINE, DRIVEN THROUGH FLEXIBLE COUPLING.

trouble for the whole factory in which it was used. An electric motor, with the perfection in which, and of their connections, they are now made, not only does its work, but can be depended upon to do "tough" work as well as light.

Messrs. David Bridge & Co., of Castleton, Manchester, England have been supplying some rubber machinery on a large scale, adapted for driving with electric motors, which has given thorough satisfaction. The experience has been that though the load on such machines is very irregular, there is no trouble in driving them with

the motors that will take the load enough for their work, and designed for the absence of overload during short periods. More than one machine geared to the same motor may be run independently of each other, if a suitable arrangement of traction pulleys permits the machines to be started or stopped

without shock or jar. There is little power lost, as compared with the loss between a steam engine and various machines with rapidly altering loads.

The illustration herewith is of a single geared roller mixing and sheeting machine, electrically operated through a special cut worm gearing. The speed of the 20 h.p. motor used is 450 revolutions per minute. It drives on to the worm gear through a flexible coupling; the worm wheel itself is keyed on to the roller end, and runs at 16 revolutions per minute. It acts as a driver for the front roller as well a novel arrangement for heavy rubber machinery and one that works satisfactorily.

It is hardly necessary to say that there is enormous loss of power with mechanical transmission between a steam or other engine and various machines with rapidly altering loads. The electric motor can be designed to tackle that work, not only without fear of breakdown, but with decided economy and efficiency.

BLACK DIAMOND TOOL POINTS

THE turning of fountain pen barrels and a great variety of other articles made of hard rubber is a branch of the rubber industry that calls for a number of special appliances. There are used in this connection tools pointed with carbon (black diamond), and these points are variously shaped to adapt them to particular uses. The illustrations herewith relate to such carbon points, made by Thomas L. Dickinson, No. 45 Vesey street, New York. These points are used also for turning fiber, celluloid, and other rolls, involving material of a tough, hard or gritty nature, on which a steel tool will not hold its edge and where it is desired to turn out a large number of pieces of uniform size.



CARBON (BLACK DIAMOND) TOOL POINTS.

THE RUBBER TRADE IN TRENTON.

THE Woven Steel Hose and Rubber Co. have commenced the erection of a new building. It will be a substantial one-story structure of brick, 60 x 130 feet, and will cost \$6,600. The site is a good one on Dale street, along a branch of the Philadelphia and Reading railroad. This will give them fine shipping facilities. The company expect to occupy the building about July 1 next. The new structure is made necessary by the growing business of the concern. Although the company manufacture a general line of mechanical rubber goods, their specialty is hose reinforced with a woven steel armor. The demand for this hose is spreading and the company recently sent a consignment to South Africa.

Trenton continues to gain new rubber companies. The latest addition to the list is the Bar Lock Rubber Tile Co., which was chartered in that city on April 8. It is capitalized at \$75,000 and will manufacture and deal in rubber tiles. The incorporators are Thomas Hydes, Edward Hyke, and Fred S. Wilson, all of Trenton. The incorporators, when seen, stated that the plans of the new company had not been fully developed.

The Coomber Rubber Co., with headquarters at Woodcliff-on-Hudson, New Jersey, was incorporated at Trenton on April 17. It has an authorized capital stock of \$15,000. The incorporators are Robert Rowley and J. J. Coomber, of No. 170 Broadway, New York, and Alfred J. Ellis and Frank C. Gruen, of Woodcliff-on-Hudson. The charter states that the concern will carry on the business of general manufacturing, with especial reference to rubber and its products.

There failed to pass the New Jersey legislature, which adjourned on April 12, a bill in which all the Trenton manufacturers, including the rubber men, were particularly interested. The measure, introduced by Senator Colby, was designed to remove the barrier to obtaining damages for injury where the employee continued in the defendant's employ, although knowing that the machinery was not properly guarded or protected. The bill was defeated in the senate.

The Trenton Rubber Manufacturing Co. are meeting with gratifying success in the sale of inner tubes for automobile tires. Placed on the market late last season as an experiment, the tubes have already made a name for themselves. So thoroughly have the "Trenton" inner tubes been appreciated that the company are filling orders for dealers in high-class goods and placing the customers' name brand thereon, they backing the quality of the tubes.

The Union Rubber Co. have added a new line to their business, that of jobbing in a full stock of rugs. This makes its business a triple one, as besides a full line of mechanical rubber goods they handle oilcloths and linoleums in large quantities. Wilson H. Harding, general manager, speaking of the Trenton rubber trade generally, states that business is exceptionally good. Orders are coming in more rapidly than the raw materials can be obtained to manufacture the goods.

The Prudential Rubber Co., the incorporation of which was referred to in THE INDIA RUBBER WORLD for February (page 100), have got to business, and the officers report that trade is opening up very promisingly. The concern have organized by electing E. Furman Hooper president and Charles F. McCoy secretary and treasurer. Mr. McCoy also has charge of the Trenton office. A New England office has been opened at No. 11 Union street, Boston, in charge of P. A. Murphy.

William R. Thropp, manufacturer of rubber machinery, reports that business is opening up briskly for the season, and his works on East State street are unusually busy. He has just completed a contract for the Empire Automobile Tire Co., for whom he has installed a set of automobile tire molds and has also put in a new 42-inch four-platen hydraulic press. This is of a special pattern with tilting tables. Another recent order of

Mr. Thropp is one for the Emnis-Ruff Tire Co., of New York city. This includes calenders, two mills, and several presses.

Business is booming at the plant of the Acme Rubber Manufacturing Co., according to General Manager John A. Lambert. In fact, the orders are coming in so rapidly that the works are being operated three evenings each week. Some trouble is being experienced in obtaining raw materials rapidly enough. Plans are being completed for extensions to be made to this factory, and it is expected ground will be broken about July 1. Then the new buildings will be rushed to completion in time for next season. The additions will be to the main building. The westerly end will be extended about 60 feet and the easterly extension will be about 80 feet long. Each will be three stories high.

Two employees of the Home Rubber Co., Frank Embley and P. J. McGlone, were held in \$200 bail each for the Grand Jury by Police Justice Frederick P. Rees, at Trenton, on April 17. The charge was stealing crude rubber from the Home company. They had been missing rubber for some time and an investigation led to these two employees mentioned being suspected. It is claimed that they sold the rubber to a local junk dealer.

Harry E. Evans, manager of the Consolidated Rubber Co., has fully recovered from a three months' siege of typhoid fever. He states that he finds business booming, at a rate of 20 per cent. ahead of last year this time.

The Standard Rubberized Pitch Co., which claims to have invented a substitute for india-rubber, was incorporated at the office of the secretary of state on April 23. The concern is capitalized at \$125,000 and its headquarters are in Point Pleasant Beach, Ocean county, New Jersey. According to the charter it will manufacture and deal in rubberized pitch and all other kinds of pitch; also all kinds of tar, resin, oil, paint, stains and wood preservatives. It will also conduct a general timber and lumber business. The incorporators are Lena McGhee, William R. Gulick, Elwood C. Jones and Frederick S. Wack, all of Point Pleasant Beach.

Quartermaster General C. Edward Murray, of the Crescent Belting and Packing Co. and the Empire Rubber Manufacturing Co., accompanied by Mrs. Murray, left Trenton on April 26 for an extended trip to the Pacific coast. After visiting San Francisco, Los Angeles and other points they will return to Trenton about May 27.

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

THE Diamond Rubber Co. are planning extensive building operations in connection with their plant in this city, and work on two of the new structures is already started. It was to provide funds for the expense of these additions, in part, that the recent large increase in the company's capitalization was made. They will expend \$30,000 on an addition to the power plant. The new building will be 60 x 40 feet, and when completed will give the company one of the best and most complete power plants possessed by any manufacturing concern in the country. Work is in progress on another building, 320 x 100 feet, five stories high, which will serve as a general addition to the tire department. A new addition to the shipping room will be 160 x 80 feet and three stories in height. This structure will also contain the general offices and the hose department.

The B. F. Goodrich Co. are preparing to begin, about May 1, the erection of two important buildings on property recently purchased by them, lying between their factory and South Main streets. It is planned to erect a four-story office building on the south corner of Rubber street, the dimensions of which will be 125 x 50 feet. On the opposite corner will be a five-story factory building of about the same dimensions. Both structures will be built of the new fireproof reinforced concrete.

used in the construction of the other big factory building recently erected facing Main street.

Although no authoritative statement has been made to this effect, it is generally understood among Akron tire manufacturers that no attempt will be made to contest the decision of the United States Circuit Court, at New York, in favor of the owners of the Grant patents on solid tires, in their suit against the Firestone Tire and Rubber Co. [See THE INDIA RUBBER WORLD, March 1, 1907, page 189.]

Frank A. Seiberling, general manager of the Goodyear Tire and Rubber Co., has filed suit in the United States Circuit Court at Buffalo, New York, against the Hartford Rubber Works Co., alleging infringement of patent No. 705,044, granted to him July 12, 1904, for a vehicle wheel rim. Morgan & Wright and the G & J Tire Co. are also made defendants. The plaintiff asks for an injunction restraining the defendants from making or selling the wheel rims alleged to infringe his patent, and also that the profits from the sale of such articles hitherto be turned over to him.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE first anniversary of the great San Francisco fire (April 18) found a great amount of rebuilding completed or in progress, and the people of the city imbued with a spirit of hopefulness and determination that bespeaks a greater and more splendid city than before the catastrophe. But much remains to be done to remove the traces of the fire, particularly in the way of restoring the streets. These notes have referred already to the heavy demand for rubber footwear due to the muddy condition of the streets, and now that the winter is over the rough condition of the streets may be credited with an increased demand for rubber automobile tires.

The Diamond Rubber Co., who have maintained their Pacific coast branch in Oakland since the fire, have opened a fully equipped store on Golden Gate avenue, in the heart of the San Francisco automobile district, in charge of J. H. Ingersoll. The Oakland branch will be continued until the Diamond company are installed in a permanent building, which they hope will be within a year.

The Pacific coast agency of the Consolidated Rubber Tire Co., in charge of H. W. Bogen, is located in well arranged quarters at No. 706 Golden Gate avenue, where a complete line of goods is carried.

Chandler & Lyon have opened a store at No. 542 Golden Gate avenue, for the sale of rubber goods and automobile supplies.

The International Rubber Co. (Milltown, New Jersey) have opened an uptown branch at No. 420 Golden Gate avenue, while maintaining their wholesale branch on Market street, both being in charge of Hughson & Merton, their Pacific coast representatives.

Mr. Squires of the lately organized firm of Barton, Squires, Byrne, Inc., is reported to have severed his connection with the house.

The Pacific Coast Rubber Co. are about to sign a lease for space in a large permanent building to be erected at Fremont and Mission streets.

P. T. Sprague, who left the Goodyear Rubber Co. a year ago to engage in business as a manufacturer's agent, and who has been since the fire located at his residence in Pine street, has opened an office at No. 10 Front street.

Louis Fotro, after having been connected with the Goodyear Rubber Co. for more than 20 years, has retired, with a view to opening a store at Haywards, California.

Hugson & Merton, representing the International Rubber Co. on the coast, have taken offices at No. 438 Market street, and are fitting up a modern store for carrying a stock on Golden Gate avenue, in the midst of the automobile trade district.

RUBBER INTERESTS IN EUROPE

GREAT BRITAIN

THE last year's trading of British Insulated and Cables, Limited, showed a profit of £197,112, against £133,902 in the year previous. Dividends, 6 per cent. on the preference and 8 per cent. on the ordinary shares, with a bonus of 2 per cent.

Turner Brothers, Limited (Rochdale), have had down special plant for making balata belting, an article for which the demand in this country is increasing rapidly.

Dividends amounting to 6½ per cent. were paid by The Gandy Belt Manufacturing Co., Limited, out of their profits for 1906; additions to reserve, £2,000; carried forward, £12,754.

The Palatine Rubber Co., makers of rubber heels, at Preston, have gone into liquidation; their assets have been purchased by The Leyland and Birmingham Rubber Co., Limited.

The only British firm having the right to use the patented winding machine used in making the Haskell golf ball is The St. Mungo Manufacturing Co., of Govan, Glasgow, Scotland.

The news appears in a Ceylon newspaper of the liquidation of the Threnfall Carr Rubber Syndicate, Limited, formed in England a few months ago to exploit the wheat or cereal rubber to which the daily newspapers for awhile devoted so much space. A notice of the liquidation of the company is said to have appeared in the London *Standard* of January 28 last.

SUBSTITUTE FOR CHICLE.

GUM-CARBO, one of the products from cotton seed oil by processes owned by The Gum Carbo Co. (Gulfport, Mississippi), is being offered as a substitute for india-rubber for a number of purposes, at varying prices, depending upon the uses to which the material is to be applied. It is also being marketed as a substitute for chicle in the manufacture of chewing gum. There are now in the United States a large number of chewing gum manufacturers, whose requirements call for the importation of the crude gum at the rate of about 500,000 pounds per month, and the New York retail price of the crude gum is now 45 to 48 cents per pound. The Gum Carbo Co. are offering their chicle substitute at 20 cents.

GUAYULE INTERESTS.

THE holdings of guayule lands in Mexico of the Madero family were stated at 300,000 acres in an article in THE INDIA RUBBER WORLD of March 1 (page 177). Such an area would not be considered at all large in the region referred to. The fact is that the Messrs. Madero own upward of 3,000,000 acres.

The Coahuila Mining and Smelting Co. (Viesca, Mexico) requests that the name Mexican Crude Rubber Co. be used in all correspondence with their guayule department, though the mining department will continue to be conducted under the old name.

A NEW GUAYULE FACTORY.

THERE has been organized lately at Torreon, Mexico, a new company in the guayule interest—La Compañia Hulera de la Laguna for which a factory is being constructed at Gomez Palacio, in the state of Durango. On March 19, A. S. Valdespino was elected president; Miguel Torres, treasurer; S. A. Suarez, secretary; Enrique Sanchez, director, and H. G. Guenther, manager. The capital stated is \$60,000 (Mex.), and the intended capacity one ton of product daily.

Articles of incorporation have been filed under the laws of Texas by the Texas Rubber Co., composed of leading citizens of San Antonio, in that state, with \$100,000 capital, to establish a factory at Marathon, in Pecos county, to extract rubber from the guayule plants abounding there.

News of the American Rubber Trade.

UNITED STATES RUBBER CO.'S AFFAIRS.

THE net earnings of the United States Rubber Co. for the fiscal year ended March 31 (March partially estimated), after payment of all interest charges, were approximately \$4,495,873.84, which included dividends amounting to \$684,308.32 received upon stock of the Rubber Goods Manufacturing Co. in this company's treasury. This sum received does not represent the total earning power of the Rubber Goods company, which, besides paying 7 per cent. on the preferred stock, has been showing a large balance on its common stock. The earnings for the last quarter of the United States Rubber Co.'s fiscal year were considerably larger than for the average for the first three-quarters of the year, which is attributed to the improved trade in rubber footwear since January 1.

The board of directors of the United States Rubber Co. on March 4 declared the regular quarterly dividend of 2 per cent. upon the first preferred stock and the regular quarterly dividend of 1½ per cent. upon the second preferred stock, for the quarter beginning January 1, from the net earnings of the fiscal year, payable April 30 to stockholders of record April 15.

The annual meeting of the shareholders for the election of directors and the transaction of any other business which may properly be brought before the meeting will be held at the registered office of the company in New Brunswick, New Jersey, on May 21, at 12 o'clock M.

ANOTHER RUMORED RUBBER MERGER.

REFERRING to certain reports published during the month, an official of the first company named here advises THE INDIA RUBBER WORLD: "There is no announcement to be made at the present time about the proposed merger of the United States Rubber Co. and the Intercontinental Rubber Co., the same being principally newspaper talk." The rumors in question were to the effect that the two companies would join interests with a combined issue of \$150,000,000 in securities. The Intercontinental company was incorporated recently in New Jersey with \$40,000,000 capital, and is the holding company of the Continental-Mexican Rubber Co. and the American Congo Co.

THE HOODS TO MAKE MOTOR TIRES.

THE Shawmut Tire Co. have begun the manufacture of automobile tires at East Watertown, Massachusetts. They start with a very full factory equipment, the result of experiments and testing carried on for five years past. The tires will be marketed under the brand "Shawmut." The company was registered as a Massachusetts corporation on February 4, 1907, under the name Meteor Tire Co., which was changed later to the Shawmut company. Frederick C. Hood is president and A. N. Hood treasurer, these gentlemen being officers in the Hood Rubber Co. The offices are at No. 67 Bedford street, Boston.

DUNLOP TIRE INFRINGEMENT SUITS.

TWO suits filed by the Hartford Rubber Works Co. in the United States circuit court for the southern district of New York, on March 12, 1907, against the Goodyear Tire and Rubber Co. and the Firestone Tire and Rubber Co., allege infringement of patent No. 488,492, granted December 29, 1892, to Brown and Stillman. The invention covered is identical with that under the British patent to C. K. Welsh and the patent is that under which the Dunlop tire has had protection in the United States.

DIAMOND RUBBER CO.'S NEW YORK BRANCH.

THE Diamond Rubber Co. of New York, who for several years past have maintained two selling depots in New York city—one for mechanical goods, in Reade street, and one for

tires, at No. 1717 Broadway—are consolidating them, from May 1, at No. 1876 Broadway. The new premises are larger than both the old locations combined by 4,200 square feet. The management will be in the hands of Mr. H. J. Woodard, who has been identified with the Diamond company's interests in New York for nearly two years. The business of the company here is so large that it has been incorporated under the laws of New York state as a separate concern.

DUNLOP TIRE PATENTS IN CANADA.

THE extension of the factory of the Dunlop Tire and Rubber Goods Co. (Toronto, Canada), noted in the last INDIA RUBBER WORLD, has for its reason in part the favorable result of the company's efforts in regard to certain legislation. The company manufacture Dunlop cycle and automobile tires under two Canadian patents—one granted to Fane and Lavendar in February, 1892, and one to C. K. Welsh in October, 1892. Previous to June, 1892, the life of a Canadian patent was 15 years, in three terms of 5 years. In that month the law was changed to extend the duration of a patent to 18 years, in three terms of 6 years. The Dunlop company applied to the Canadian parliament to make the term of the Fane and Lavendar patent of equal length with that of the Welsh patent, and to give to the patent office the power to revive the Welsh patent, which, owing to the non-payment of the fee for one term, had been allowed to expire. The Dunlop company were successful on both points, though the bill in parliament was strongly opposed by other manufacturers, who were planning to make Dunlop tires. The patents will now hold good until October, 1910. One reason advanced for the special legislation referred to was that two patents having been granted for one invention, litigation resulted, on account of which no benefits were realized for the first three years.

FAULTLESS RUBBER CO.—REMOVAL.

THE Faultless Rubber Co. announce that in view of the removal of their factory and general offices from Akron to Ashland, Ohio, all mail matter intended for them should be addressed to the latter place. They will maintain a branch office at Akron.

THE "PEERLESS" FACTORY STILL GROWING.

THE Peerless Rubber Manufacturing Co. have broken ground for a large three story factory building at their plant at New Durham, New Jersey. This, with other improvements, when finished will give the Peerless company the distinction of having the largest mechanical rubber plant in existence.

There will be several new calendering machines, a large number of presses for mold work, besides a new installation of washers, grinders, mixers, etc. These improvements, when completed, will add to the capacity of the plant about 30 per cent. For the last four years this company has been running both a night and day force, and it is hoped that the new improvements will do away with this necessity. The department in which the "Rainbow" and "Peerless" packings and the "Eclipse" gaskets are manufactured will also be greatly enlarged and improved.

BALATA TARIFF CASES FINALLY SETTLED.

THE secretary of the treasury advises that no further proceedings will be directed by the government in the matter of an import duty on balata in view of the recent decision in the United States court for the southern district of New York, declaring this gum to be properly included as "india-rubber, crude," under paragraph 579 of the Tariff act. [See THE INDIA RUBBER WORLD, April 1, 1907—page 216.] Importers who have paid duties on balata are entitled to a refund.

FACTORY ENLARGEMENT AT BRISTOL.

The insulated wire department of the National India Rubber Co. (Bristol, Rhode Island) is being enlarged by the erection of a two story brick building, 450 x 60 feet, which, with its equipment, will increase the capacity of the department fourfold. The building is so located as to permit the connection with it as "ells" of two old buildings, which will be devoted also to the wire department. Two years ago this department contained only 150 braidlers, and by the end of 1907 it is planned to increase this number to about 3,000. The National company are also installing an electrical power plant, to drive all the machinery in the new building, as well as machinery at some isolated points in the old factory. This will involve an addition to the boiler capacity of the factory, and the company will also do all their own lighting. It is planned to increase the number of the company's employes to 2,500 when the new addition is completed. The insulated wire department, with the additions completed, will form the largest plant in any country for rubber covered wire work, with a capacity estimated at 5,000,000 feet daily. The extension has been planned with a view to meeting what is believed to be a growing demand for rubber covered wire, at home and abroad, and the company intend to be in a position to enter foreign markets with their wire products.

NEW JERSEY CORPORATIONS SUSPENDED.

The governor of New Jersey announces the suspension from the list of corporations formed under the laws of that state for non-payment of corporation taxes for 1904, of a large number of companies. The list of suspensions includes the following concerns related more or less to the rubber interest:

- Air Cushion Horse Collar Co.
- Commonwealth Mexican Plantation Association, Inc.
- Consolidated Rubber Works, Incorporated (800); capital, \$500,000, made the "Kangaroo" bicycle tire at Chelsea, Mass.
- Davenport Hose Coupling Co.
- Electric Rubber Manufacturing Co. Incorporated October 6, 1903; capital, \$1,000,000, made motor tires at Rutherford, N. J., now in receiver's hands.
- Gregory Rubber Co. Incorporated August 22, 1902; capital, \$125,000; formed to make a tire patented by W. F. Gregory, of Springfield, Mass.; never in operation.
- Keystone Pneumatic Hose Co.
- Pennsylvania Plantation Co.
- Pneumatic Wheel Co.
- Swift Flyer Golf Ball Co.
- T. S. Buck Manufacturing Co. Incorporated December 22, 1901; capital, \$100,000, to make rubber stamps in New York; reorganized under New York laws April 27, 1904.
- Tennant Auto Tire Co. Succeeded, June 7, 1905, by a new corporation of the same name under the Ohio laws; located at Springfield, Ohio; exploited a puncture proof tire.

MERCHANTS' ASSOCIATION OF NEW YORK.

THE Merchants' Association of New York have issued their Year Book for 1907, including the last annual report of the president, which is an interesting summary of the work done by this important organization. The association, though composed of a local membership, exert a far-reaching influence as a result of their investigations and efforts to influence business methods and legislation. The importance of New York as a business center is such that measures adopted for merely local reasons may have a beneficial effect throughout the country. For example, the benefits from lower passenger rates for merchants visiting the city are not confined to New York alone. The same is true of revisions of freight rates, the postal laws and so on. The president claims that the association was directly instrumental in bringing about the *modus vivendi* between the United States and Germany whereby the operation of the drastic German tariff laws, as affecting this country, has been suspended until the situation can be studied by an Ameri-

can commission, with a view to formulate legislation at Washington. The new Merchants' Association building, at Nos. 60-72 Lafayette street, affords chambers and quarters for the work which is being carried on. It is satisfactory to see the rubber trade so well represented in the membership of the association, but there are a number of other rubber concerns which might do well to consider the advisability of becoming members.

CHANGES OF ADDRESS.

The Amsterdam Rubber Co. handling the products of the Joseph Banigan Rubber Co. in New York, will occupy from May 1 larger quarters at No. 107 De la Motte than they have had hitherto in Reade street. They have more storerooms and sample room, and will be able to carry a larger stock than in the past.

Joseph Canton, importer of crude rubber and rubber substitutes, has removed from No. 36 Pine street to No. 82-92 Beaver street, New York.

The Arkay Rubber Co. (New York), handlers of elastic bands and other rubber specialties, have removed from No. 35 Warren street to No. 111 Chambers street.

The Boston office of E. H. Clapp Rubber Co. has been removed from No. 35 to No. 40 Federal street.

The Philadelphia Rubber Works have removed their offices to their extensive new factory.

Maryland Rubber Co. (Baltimore) removed on April 15 to larger premises at No. 37 Hopkins place. They have a general rubber goods house and are selling agents for their territory for the National India Rubber Co. and The Peerless Rubber Manufacturing Co.

The Philadelphia branch of the B. F. Goodrich Co. (Akron, Ohio) has been removed to larger quarters, at No. 1332 Arch street.

The Chicago branch of Morgan & Wright (Detroit, Michigan) has been removed to No. 81 Michigan avenue.

Sterling Rubber Co., a jobbing concern organized lately in San Francisco, with the Pacific coast accounts of the Voorhees Rubber Manufacturing Co. and the Seamless Rubber Co., have been obliged already, by the growth of their business, to remove to larger quarters, at No. 301 Market street.

NEW ENGLAND RUBBER CLUB.

At a meeting of the Executive Committee of the New England Rubber Club, held on April 20, the following committees were appointed:

- Dinner*.—Francis H. Appleton, chairman; John S. Patterson, W. E. Barker, T. J. Skinner, and E. H. Clapp.
- Entertainment*.—George H. Mayo, chairman; R. L. Dorr, E. E. Fay, George O. Currier, Jr., and C. J. Bailey.
- Auditing*.—J. Frank Dunbar and George P. Fensh.
- Sports*.—W. E. Larrington, chairman; H. G. Iyer, F. C. Hood, F. G. Balderston, and R. L. Chipman.
- Resolutions*.—George P. Whitmore, chairman; F. E. Wadbrook and A. M. Paul.

The Executive Committee of the Club have accepted the invitation of Mr. Willbur E. Farrington, one of the musical members of the Club, to attend a private musicale at Chipman Hall, Boston, on the evening of May 10 at 7:35 o'clock. A quartet of male voices, with a piano, organ and string band accompaniment, are features of the entertainment. The instrumental music referred to above will be from the "Choraledele"—the wonderful electrical piano, that is piano, church organ, military band, violin, human voice, or whatever the player wishes. The entertainment is free to members of the New England Rubber Club and their ladies.

PARA RECOVERY CO.

A CONTRACT has been signed between the Para Recovery Co. (Bayonne, New Jersey) and the New York Commercial Co. under which the latter become exclusive agents for the sale of the former company's products in the United States and abroad. —At the last meeting of the directors of the Para Recovery Co. Mr. G. E. Heyl-Dia was elected president.

THE RUBBER FOOTWEAR TRADE.

WITHIN the past month many newspapers printed rumors to the effect that an advance in the prices of rubber footwear would be made, probably to take effect from May 1. The INDIA RUBBER WORLD, on going to press, in answer to inquiries made at the offices of the United States Rubber Co., is advised that nothing is known there of an advance in prices. It has not been deemed worth while to pursue the inquiry further. The only change that has taken place in selling terms since the first of the year is that the cash discount for prepayment of accounts was increased on April 1, as is usual, and was announced beforehand.

Newspaper reports continue to refer to the advance in rubber footwear made January 1, whereas there has been no change in net prices since April 1, 1906.

Conditions in the rubber shoe trade underwent a decided change for the better during the latter part of the winter. It was a poor rubber season until after New Year's, but the supply of snow from the first of February was most favorable for business, continuing to an unprecedentedly late date. On April 9 5½ inches of snow fell in New York City, being the heaviest fall on record for so late a date.

The rubber footwear factories are busy, after a brief shut-down for stocktaking and repairs at the end of March.

THE TRADE AT DENVER.

THE Denver Rubber Co. (Denver, Colorado) have disposed of their retail department and removed from their former premises to Nos. 1433-1435 Lawrence street, where they will occupy the entire building, with increased facilities and a larger stock than hitherto. Mr. R. A. Kincaid continues as president, and the company are exclusive representatives of several leading manufacturers of mechanical rubber goods and sundries.

The retail department of the business has been purchased by Phil Arnold, Jr., who for several years had been manager of the company, and removed to No. 434 Sixteenth street, Denver, where he has opened a retail business under the style of Good-year Rubber Store Co. The firm has no connection with any of the other Goodyear rubber stores, though there is some Eastern capital interested. The new company will carry on a general retail and mail order business in rubber goods.

WILLIAM H. SCHEEL—FIRE.

THE entire stock of William H. Scheel, dealer in paints and varnish materials, and supplies for rubber and other manufacturers, at No. 150 Maiden lane, New York, together with the building, was destroyed by fire early on the morning of April 4. Mr. Scheel was prepared, however, to take orders for immediate or future deliveries of any of the lines previously offered by him to the trade, with little or no delay of shipments, except on large orders, and these he was able to take care of from lots previously ordered and coming forward, or from stocks cabled for immediately after the fire. The concern will be located at No. 140 Maiden lane until the old premises can be rebuilt.

TRADE NEWS NOTES.

THE Trident Tire Co. (New York) are reported to have under consideration the question of doing their own manufacturing. It is understood that the company booked 158 orders at the Chicago automobile show, including one for 4,000 tires.

Certain imported French tires were recently before the customs appraisers at New York with the result that they were valued for entry as follows. The tires varied in size from 32½ x 4¼ inches to 30½ x 4¼ inches, and were appraised at from \$40.22 to \$54.94 each, averaging \$51.63 each, or \$200.52 per set, without duties paid.

The seventh annual convention of the National Electrical Contractors' Association of the United States will be held in New York on July 17-19, and promises to be the most largely attended and probably the most interesting convention the association has held.

TRADE NEWS NOTES.

THE Akron Rubber Engineering Co. (313-314 Everett building, Akron, Ohio) are establishing a business of systematizing mechanical equipment for rubber factories. Their special line will be to make plans and specifications for rubber factories.

Charles W. Harris, formerly Chicago manager for the Pennsylvania Rubber Co., has been appointed general manager for the American Cellular Tire Co., who are bringing out a new tire, with offices at 812 Great Northern building, Chicago. Alexander Adamson (Akron, Ohio) has contracted to supply molds for the new tire.

The Garter Cross Co. have been incorporated in Connecticut with \$20,000 capital, and will establish a factory at New Haven.

The Sullivan Insulation Co. was incorporated February 18, 1907, under the laws of New York; capital, \$10,000. Directors: John S. Durand and John Bowen, No. 81 Fulton street, New York; Maurice Sullivan, No. 85 South Fifth street, Brooklyn, N. Y. Incorporated principally to exploit a patented removable and replaceable flange and flange fitting covering, and to contract for boiler and pipe coverings. The charter authorizes the company to manufacture insulated wires and cables, using rubber or any other insulating material.

The Rubber Balloon Co. of America (Newark, New Jersey), formed some two years ago to manufacture toy balloons by a special process, have retired from business.

At the banquet of the Rochester (New York) Automobile Club on March 25, the handsome menu cards had a cover design, the principal feature of which was a representation of the Goodrich-Bailey Tread tire.

Mr. Thomas G. Richards, president of the B. & R. Rubber Co., delivered an address on the evening of April 10 before the Appleton Club of North Brookfield, Massachusetts, on india-rubber, the methods of obtaining the raw material, and the processes of manufacture.

The employes of the Davol Rubber Co. (Providence, Rhode Island) gave a concert and "social" on the evening of April 15 which was well attended and much enjoyed by those present. The committee in charge included Daniel J. McCarthy, George Cosgrove, G. W. Whittemore and George Francis.

The Woonsocket Rubber Co. and the American Wringer Co. are among the manufacturing concerns co-operating with the social science section of the Fortnightly Club of Woonsocket, Rhode Island, in working for the prevention and cure of tuberculosis among factory employes.

Shippey Brothers, 14 King street, Cheapside, London, have been appointed agents for the sale of the heavy motor bus tires of the "sidewire" type manufactured by Morgan & Wright (Detroit, Michigan).

A petition in bankruptcy was filed on April 10 against the E. J. Willis Co. (New York), dealers in automobile supplies. The company have handled large quantities of rubber tires, as did the president, Ernest J. Willis, in business as an individual before forming the company.

Rubber erasers entered at New York by L. & C. Hardtmuth at 3 shillings were advanced by the customs appraisers to 3 shillings 6 pence.

At the annual meeting of shareholders of the Joseph Dixon Crucible Co. (Jersey City, New Jersey), 6,460 of the 7,345 shares being represented, the board of directors was re-elected. The officers were later re-elected as follows: E. F. C. Young, president; John A. Walker, vice president and treasurer; George E. Long, secretary; Judge Joseph D. Bedle, counsel.

An automobile club with 60 members has been organized at Akron, Ohio. Charles C. Goodrich, of The B. F. Goodrich Co., is president.

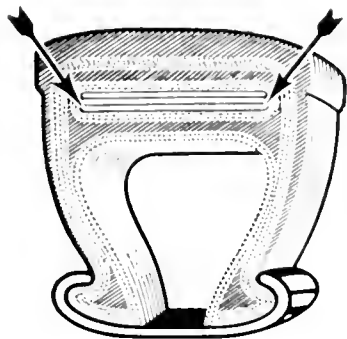
A recent count showed 1,117 vehicles in New York city to be equipped with the "sidewire" tires of The Firestone Tire and Rubber Co.

AN UNPUNCTURABLE INNER TUBE

The Victor Auto Tire Repair Co. has been organized at Passaic, N. J., with \$50,000 capital, to make an "unpuncturable" felt tread inner tube for motor tires, which is being marketed as the "Victor" tube. James Matland is manager and Samuel W. Hale secretary of the company. The offices are at No. 220 Madison street, Passaic.

FIRST RUBBER TIRE FACTORY AT NEWARK.

The Ennis Ruff Tire Co., incorporated under the laws of New York to make and sell the spring tire patented by Frederick A. Ruff, of Detroit, first brought their product before the public



ENNIS-RUFF TIRE.

at the Boston Automobile Show, in March, since which time it has rapidly been winning favor. As indicated in the cut, the novel feature of this tire is the triple layer of highly tempered steel spring located within the tread. The resilience of this tire is referred to as being practically the same as that of other pneumatic tires, while less air pressure is required, and for this reason the liability to blowouts is lessened.

The Ennis Ruff Tire Co.'s offices are located in the new "Auto-Mart" building, Sixty second street and Fifth avenue, New York. They are establishing a factory for the production of the rubber treads and inner tubes at No. 22 Commercial street, Newark, N. J.

OBITUARY.

MRS. MARY MARVIN GOODRICH, widow of the late Dr. Benjamin F. Goodrich, founder of The B. F. Goodrich Co. (Akron, Ohio), died at her home, in New York city, on April 15. She was born at Jamestown, N. Y., being the daughter of Justice Richard Pratt Marvin, of the New York supreme court, and Isabella Newland Marvin. On November 14, 1860, she was married to Dr. Goodrich, then engaged in business in New York, and in the year following accompanied him to Akron, where he laid the beginnings of the rubber industry in that city. After the death of Dr. Goodrich, in 1888, his widow resided for a few years at Cambridge, Mass., before finally making her home in New York. The burial took place at her native place, Jamestown, N. Y., which was the last resting place of her husband. Mrs. Goodrich is survived by two sons and a daughter: Charles C. Goodrich, of The B. F. Goodrich Co., at Akron; David M. Goodrich, of New York, and Isabella, the wife of John C. Breckinridge, of New York. Richard Pratt Marvin, a brother of Mrs. Goodrich, died in 1906, at which time he was secretary of The B. F. Goodrich Co.

RUBBER FACTORY FOR SALE.

The receivers of the Electric Rubber Manufacturing Co. will offer, at public sale, on May 3, at 2 P. M., on the premises at Rutherford, N. J., the plant of the company, consisting of three acres of land, with buildings and machinery and other equipment, particularly for the manufacture of rubber tires.

The property for sale embraces a large modern brick factory building, two-story office building; machinery for the manufacture of motor tires (capacity 75 to 100 tires per day) and full line of mechanical rubber goods; 300 H. P. steam engine, electric lighting plant, and in general a complete rubber factory equipment. The location is favorable in all respects. Further details appear in an advertisement in this paper.

The Electric company were reported, at the time of their failure, to have important orders on hand, but lacked capital.

TRADE NEWS NOTES.

Lucky T. H. Co. of New York City, has been awarded a contract by the U. S. Government for the manufacture of 100,000 rubber boots for the army. The contract was awarded to the company by the War Department, and will be completed by the company in the next few months.

The Plymouth Rubber Co. of Boston, Mass., has increased their capital stock to \$500,000. The company has recently purchased a new building at Boston, and are putting in additional machinery. The company is also making such specialties as rubber boots, shoes, and rubber packing.

The Phillips Insulated Wire Co. of New York City, has voted to petition the state legislature for an act to increase their capital stock from \$1,000,000 to \$2,000,000.

Mr. William Neidner, general manager of the large rubber manufacturing plant of Charles Neidner, his father, at Malden, Massachusetts, has been elected an alternate to the city of Malden, after having served for two years as councillor. He has been made chairman of the important committee on public property.

W. D. Allen Manufacturing Co. (Chicago), one of the largest makers of lawn sprinklers in the country, and have the largest line of sprinkling devices made by any firm in the world. They have been particularly pleased lately to see the recognition which their sprinklers have received in the eastern states, as indicated by their large shipments to Boston.

The Pittsburgh Rubber Supply Co. have reported for the first year, and Mr. W. P. Cowell, the manager, reports a highly satisfactory condition of business.

The Standard Underground Cable Co. (Pittsburgh, Pa.), have declared a quarterly dividend of 3 per cent., payable on April 10.

The St. Louis Rubber Cement Co. have planned to erect buildings to cost \$6,500 at No. 3070 Lombin avenue, St. Louis, which will take the place of the premises damaged by fire in February.

A. G. Spalding & Brothers Manufacturing Co., manufacturers of sporting goods and golf balls at Chicopee and Stoughton, Massachusetts, are incorporated under the Massachusetts laws. The business is conducted separately from that of A. G. Spalding & Brothers, of New York, and succeeds the Lamb Manufacturing Co., of Chicopee.

Alexander O. Holroyd, who came to the United States from England in connection with the Dunlop tire company, is being retained with the American Dunlop Tire Co. since its beginning and since with the Dunlop department of the Hartford Rubber Works Co., has gone to Columbus, Ohio, where president of the Midgley Manufacturing Co., of which Thomas Midgley, lately president of the Hartford Rubber Works Co., is the head.

Mr. Julius Lehmann, manager of the india rubber department of George Borgfeldt & Co., American representatives of the Hanover Rubber Co., accompanied by his wife, sailed on the *Kaiser Wilhelm II.* on April 10 for a three months' vacation in Europe.

The Fisk Rubber Co.'s New York branch is expected, by June 1, to be installed in a new building now being constructed for its use at Fifty fifth street and Broadway. J. W. Bowring has resigned as manager of the New York branch, being succeeded by L. A. Drake.

Mr. Ous R. Cook, who for twelve years was general representative of The B. F. Goodrich Co., and after a year's absence representative of the International Rubber Co., will arrive at 518 American Trust building, Cleveland, Ohio, tomorrow from the latter connection to become general representative of the Firestone Tire and Rubber Co., retaining the name mentioned above.

TRADE NEWS NOTES.

The Erie Rubber Co. filed articles of incorporation April 4, 1907, under the laws of Ohio, with \$10,000 capital, to engage in the sale of tires and other rubber goods. They will act as selling agents, and job and deal in all kinds of rubber tires. R. C. Ellis is president and manager, and T. W. Spalding secretary and treasurer. They will not engage in manufacturing for the present, though their charter permits them to do so. Location: No. 510 Sycamore street, Cincinnati.

The Rubber Products Co. (Akron, Ohio) are manufacturing for outside parties a specially light over-shoe for ladies' wear, a patented article in which a good trade has been built up. The company have been enlarging their facilities for mold work, providing room for 24 hydraulic presses.

At the annual meeting of the Woonsocket Rubber Co. (Woonsocket, Rhode Island) on April 22, the directors elected were Samuel P. Colt, Walter A. Read, John W. Ellis, James Harris, Walter S. Ballou, Homer E. Sawyer, and John J. Watson, Jr. Colonel Colt was reelected president and general manager and Clarence H. Guild secretary and treasurer.

The Boston Rubber Shoe Co. have a display of their products at the Jamestown Exposition, to celebrate the tercentennial of the founding of the first English colony in America, which was opened formally on April 20.

The New England Rubber Manufacturing Co. (Hyde Park, Massachusetts) are doing a very large and profitable business in the proofing of fabrics of all sorts, including silk. The active head of the company, Mr. A. A. MacLaren, who is both secretary and treasurer, has also recently installed an up-to-date plant for the manufacture of rubber heels and small molded specialties in rubber.

PERSONAL MENTION.

MR. ARTHUR E. FRISWELL, formerly with the Mechanical Fabric Co. (Providence, Rhode Island), and for some years past at the works of David Moseley & Sons, Limited, at Manchester, England, was recently called to the United States by the serious illness of his father at Providence.

Mr. George S. Atwood, secretary of the American Association of Commerce and Trade, with headquarters in Berlin and a membership divided equally between American and non-American firms, arrived in New York on April 9 on a visit the object of which is to bring the association into closer relations with American commercial interests.

Mr. Leonard F. Requa, founder and for a number of years president of the Safety Insulated Wire and Cable Co. (New York), is a director in the Arizona Amalgamated Copper Co., a \$15,000,000 mining company.

The Boston shoe trade, both rubber and leather, will miss George E. B. Putnam, department editor of the *Boot and Shoe Recorder*, but not for long. He has merely gone to Jamaica for a well earned rest. Here's hoping that that trim little island lies quiet while he is there and that he returns soon and much refreshed.

Mr. Lewis D. Parker, some time president of the Hartford Rubber Works Co., has been elected a director in the important hardware and tools manufacturing concern, Billings & Spencer Co. (Hartford, Connecticut), to fill the vacancy caused by the death of Franklin Clark.

Mr. F. H. Burgess, special correspondent of the important London daily, *The Financier and Bullionist*, was in New York recently, whence he started for an 18 months' tour of Mexico, the Central American states, and South America, with a view to reporting, in a series of letters, on the financial, industrial, and commercial conditions and prospects of the different countries. His itinerary embraces the leading rubber ports, including Pará and Manaus, and the rubber interest is on his list of subjects for study.

TO EXPLOIT COLOMBIAN RUBBER.

THE Amazon-Colombian Rubber and Trading Co. filed articles of incorporation under the laws of Maine on April 10, 1907, with an authorized capital of \$7,500,000, of which \$3,000,000 is 7 per cent. preferred stock and \$4,500,000 is common stock. The object is to acquire and work rubber and timber resources controlled under a concession from the republic of Colombia—an estimated area of 47,000 square miles, bounded in general by the Putumayo and Caqueta rivers, the waters of both of which reach the Amazon. The concession carries the exclusive rights of exploitation until 1930, and the right to acquire 80,000 hectares (=197,680 acres) in fee simple, anywhere within the limits of the concession.

During the last four years rubber has been shipped from the district above referred to, in increasingly large amounts, by way of Iquitos. Manifests of such shipments between the dates of December 20, 1904, and November 25, 1906, show 769 tons of rubber consigned for Liverpool and 57 tons for New York, and the later exports have been on a large scale. It is expected that the rubber working and trading organization already on the ground will be continued under the new régime. The rubber gathered hitherto has been of a quality approximating caucho ball, but described as *Jebe debil* or "weak rubber."

The new company have head offices at No. 1 Wall street, New York. The officers are: President, *Frank Squier*, of the paper trade, president Queens County Trust Co., and recently one of the vendors of the Inambari-Pará Rubber Estates, Limited; vice-president, *Benjamin Briscoe*, president Maxwell-Briscoe Motor Co.; secretary, *John Bidlake*, a former United States consul in Colombia, and general manager of the Home Land and Mining Co.; treasurer, *Julian M. Gerard*, of H. C. Brown & Co., bankers, New York; managing director, *Herman D. Selleck*, secretary Carabaya Rubber Co., operating rubber properties in Peru. The directors are the above, C. P. Collins, president Inca Rubber Co. and Inca Mining Co.; Fidel Cuello, merchant, of Bogota, and Carl H. Fowler, counselor-at-law, of New York.

Colonel John Bidlake, Fidel Cuello and H. D. Selleck, named above, are now in London with a view to promoting the interests of the company. In London is a branch of the important company who have been exploiting the rubber resources of the district involved in the concession.

POPULAR TOILET APPLIANCES.

DEALERS who have taken on the Allen fountain brush have found it a ready seller. While the brush and accompanying outfit have been improved from time to time in efficiency and appearance, the original principle remains:



ALLEN BATHROOM
OUTFIT IN USE.

Water applied to the skin in a gentle or strong spray through the bristles. The slow or brisk rub readily opens the pores and clean water is applied directly during the process of massage or friction. A thorough, satisfying, cleansing bath is accomplished rapidly and followed by a delightful, exhilarating, toning effect upon the system.

The Allen fountain brush with portable outfit is used independent of the bathroom, tub or running water, as explained in the company's advertisement. This outfit is greatly appreciated and readily purchased by those not having bathrooms and by travelers, as the outfit is packed in a small box easily carried in grip or suit case.

Effective advertising matter is supplied free of charge to dealers handling these goods.

[The Allen Manufacturing Co., No. 2515 Adams street, Toledo, Ohio.]

Review of the Crude Rubber Market.

THE rubber market has been in a condition during the past month that may best be described as uncertain, unless the language be adopted of one trade report that appeared a fortnight ago, referring to the week then closing as the dulllest on record. The arrivals have been taken to fill contracts and manufacturers have shown no interest in the lower price scale now prevailing. There was a gradual decline, from the quotations in our last report, until past the middle of the month, when new Islands fine was quoted at \$1.14—a price not before recorded since December, 1904, but it is not known that business was done at these figures. There has been a subsequent increased firmness of the market and quotations to day are within 1 and 2 cents of prices one month ago.

The Pará rubber crop this year is conceded to be larger than in any former year. Arrivals at Pará up to April 1 (including caucho) were 1,280 tons larger than in the year before at the same date, and the rate has been well maintained since, the estimated total arrivals for April, at the time of our going to press, being 3,050 tons, against 2,500 tons in April, 1906. The following table shows the arrivals in tons for the four last crop years—to December 31, to March 31, to April 30, and the entire crop. If the average rate of arrivals is maintained for May and June, the present crop will aggregate very nearly 30,000 tons and the average seems likely to be exceeded.

PARÁ ARRIVALS—RUBBER AND CAUCHO—IN TONS.

	1903-04.	1904-05.	1905-06.	1906-07.
To December 31.....	13,470	13,300	14,000	14,720
To March 31.....	25,480	27,210	28,020	29,300
To April 30.....	27,550	29,330	30,520	32,350
To June 30.....	30,580	33,060	34,400	

[a—Partially estimated.]

The market for Centrals and Africans has been of a firmer character throughout the month.

NEW YORK QUOTATIONS:

PARÁ.	May 1, '06.	April 1, '07.	April 20.
Islands, fine, new.....	122 @ 123	116 @ 117	115 @ 116
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	126 @ 127	118 @ 119	117 @ 118
Upriver, fine old.....	127 @ 128	121 @ 122	119 @ 120
Islands, coarse, new.....	70 @ 71	67 @ 68	67 @ 68
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	91 1/2 @ 92	92 @ 93	91 @ 92
Upriver, coarse, old.....	none here	none here	none here
Cauchó (Peruvian) sheet.....	74 @ 75	75 1/2 @ 76	73 1/2 @ 74
Cauchó (Peruvian) ball.....	85 @ 86	86 @ 87	86 @ 87
Ceylon, fine, sheet.....		137 @ 138	135 @ 136

AFRICAN.

Sierra Leone, 1st quality.....	102 @ 103	Lopori ball, prime.....	105 @ 110
Massai, red.....	102 @ 103	Lopori strip, prime.....	100 @ 102
Benguella.....	76 @ 77	Madagascar, pinky.....	87 @ 88
Cameroon ball.....	79 @ 80	Ikelemba.....	110 @ 112
Acera flake.....	20 @ 21	Soudan niggers.....	91 @ 92

CENTRALS.

Esmeralda, sausage.....	89 @ 87	Mexican, scrap.....	80 @ 90
Guaquil, strip.....	73 @ 74	Mexican, slab.....	66 @ 67
Nicaragua, scrap.....	85 @ 86	Mangabeta, sheet.....	50 @ 60
Panama, slab.....	67 @ 68	Guayule.....	48

EAST INDIAN.

Assam.....	94 @ 95	Borneo.....	40 @ 63
Late Pará cables quoted.....		Per Kilo, Upriver, fine.....	68 5/100
Islands, fine.....	58 5/100	Upriver, coarse.....	48 8/100
Islands, coarse.....	38 5/100	Exchange.....	15 1/2 d.
Last Manaos advices:		Upriver, coarse.....	48 4/100
Upriver, fine.....	68 7/100	Exchange.....	15 7/32 d.

NEW YORK PRICES FOR JANUARY (NEW RUBBER).

	1907.	1906.	1905.
Upriver, fine.....	1.21 @ 1.24	1.23 @ 1.29	1.18 @ 1.25

Upriver, coarse.....	66 @ 68	67 @ 68	66 @ 67
Islands, fine.....	127 @ 128	127 @ 128	124 @ 122
Islands, coarse.....	70 @ 71	70 @ 71	65 @ 67
Cameta.....	71 @ 71	71 @ 71	64 @ 67

NEW YORK RUBBER PRICES FOR MAY 1, 1907.

	1907.	1906.	1905.
Upriver, fine.....	\$1.19 @ \$1.2	8 1/2 @ 8 1/2	8 25 @ \$1.20
Upriver, coarse.....	95 @ 98	95 @ 95	93 @ 96
Islands, fine.....	1.17 @ 1.19	1.2 @ 1.2	1.22 @ 1.26
Islands, coarse.....	69 @ 72	71 @ 75	70 @ 75
Cameta.....	71 @ 73	75 @ 77	70 @ 76

NEW YORK PRICES FOR MARCH 31, 1907.

	1907.	1906.	1905.
Upriver, fine.....	1.19 @ 1.21	1.25 @ 1.2	1.20 @ 1.34
Upriver, coarse.....	92 @ 96	93 @ 97	94 @ 1.00
Islands, fine.....	1.14 @ 1.19	1.23 @ 1.25	1.25 @ 1.31
Islands, coarse.....	69 @ 70	72 @ 75	75 @ 80
Cameta.....	71 @ 73	74 @ 77	77 @ 82

Statistics of Para Rubber (Excluding Cauchó).

	NEW YORK.	Total.	%.	Total.
	Fine and Medium.	Coarse.	1907.	1905.
Stocks, February 28, Tons.....	188	8	196	136
Arrivals, March.....	1333	63	1909	3148
Aggregating.....	1521	644	2165	3284
Deliveries, March.....	1419	724	2040	2941
Stocks, March 30.....	105	20	125	343

	PARÁ.	EXCHANGE.	1907.	1906.	1905.
Stocks, Feb. 28, Tons.....	485	737	810	449	305
Arrivals, March.....	4975	2795	3800	1189	770
Aggregating.....	5100	3532	4610	1635	1075
Deliveries, March.....	4175	3300	3881	825	800
Stocks, March 30.....	685	130	720	810	275

	1907.	1906.	1905.
World's visible supply, March 30, Tons.....	3,894	3,260	3,511
Para receipts, July 1 to March 30.....	25,435	24,204	23,250
Para receipts of Cauchó, same dates.....	3,975	3,705	3,704
Afloat fr. Para to United States, Mar. 30.....	748	757	829
Afloat from Para to Europe, Mar. 30.....	1,220	1,070	1,210

Plantation Rubber From the Far East.

WEEKLY CEYLON EXPORTS.

	Pounds.	Total, 1907.	Pounds.	Total, 1905.
January 1 to Feb. 4.....	26,418	3,894	3,260	3,511
Week ending Feb. 11.....	10,744	Same dates, 1906	13,806	11,592
Week ending Feb. 18.....	14,007	Same dates, 1905	11,592	
Week ending Feb. 25.....	10,772	Same dates, 1904		
Week ending Mar. 4.....	12,515			

Distribution.

Great Britain.....	57,917	Belgium.....	1,041
United States.....	14,410	Australia.....	440
Germany.....	6,048		

Rubber Scrap Prices.

NEW YORK QUOTATIONS—prices paid for scrap rubber in broad lots, per pound, show little change.

Old rubber boots and shoes—domestic.....	10 1/2	Old rubber boots and shoes—foreign.....	9 1/2
Pneumatic bicycl. tires.....	7 1/2	Automobile tires.....	9 1/2
Solid rubber wagon and carriage tires.....	9 1/2	White trimmed rubber.....	12 1/2
Heavy black rubber.....	5 1/2	Air brake hose.....	4 1/2
Fire and large hose.....	3 1/2	Garden hose.....	2 1/2
Matting.....	15 1/2		

Paris.

THE business of the late Haymann Lerchenthal, in crude rubber and other raw materials, is being continued by the firm of Poncin, Dusendsehon et Cie., at 47 rue Lafitte. The firm includes Messrs. Alfred Poncin and Oscar Dusendsehon (the latter of whom has been engaged in the rubber trade at Para and Manaus), and are correspondents of Heilbut, Symons & Co., of London and Liverpool. The Lerchenthal estate is being liquidated separately by Monsieur Poncin.

Havre.

THE offerings at inscription this date embrace about 112 tons, mostly of French Congo sorts, with several items from Madagascar. Madagascar pinky is estimated at 800 francs [-75 cents per pound] and Majunga at 8 francs [-70 cents] Ceylon and Straits plantation rubber is also included.

EUROPEAN ARRIVALS AT HAVRE.

DEPT. 18. Steamer <i>La C...</i>	123,121 kilos
JAN. 16. Steamer <i>Port...</i>	107,953 kilos
FEB. 18. Steamer <i>Europe...</i>	99,070 kilos
MAR. 10. Steamer <i>La...</i>	87,820 kilos

Para.

EXPORTS of crude india-rubber (including cauchou) during January-March, 1907, in kilograms:

Para, shipment	5,786,547
From Manaus	7,173,445
From Iquitos, Peru	1,059,014
Total	14,019,006

R. O. AHERS & Co. report [April 1]:

In spite of lower quotations from the home markets, there has been a general good demand for the arrivals at slightly increased prices. The tributaries of the Amazon have now sufficiently filled up to enable all

steamers to go up again and deliver their cargamentos, so that the outlook for the new crop does not seem so bad as could be supposed by reports received last month.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

MARCH 27. By the steamer <i>Hubert</i> , from Manaus and Para:					
IMPORTERS.	Fine.	Medium.	Coarse.	Cauchou.	Total.
Pool & Arnold	323,200	74,300	133,200	72,800	603,500
A. T. Morse & Co.	223,900	42,500	81,200	134,200	481,800
General Rubber Co.	104,900	22,500	62,000	42,800	232,200
New York Commercial Co.	146,400	34,100	68,500	6,500	255,500
Hagemeyer & Brunm.	22,600	4,100	33,900	.....	60,600
C. P. dos Santos	49,300	9,400	.....	4,300	63,000
Neale & Co.	2,200	1,400	15,900	19,800	39,300
Edmund Reeks & Co.	17,800	3,200	15,900	.....	36,900
Total	890,300	191,500	441,500	280,400	1,803,700

APRIL 3. By the steamer <i>Horatio</i> , from Manaus and Para:					
IMPORTERS.	Fine.	Medium.	Coarse.	Cauchou.	Total.
A. T. Morse & Co.	300,700	82,500	149,900	88,300	621,400
Pool & Arnold	193,300	42,900	107,800	78,200	422,200
General Rubber Co.	152,000	41,800	102,100	70,800	466,700
Neale & Co.	44,500	8,500	42,100	700	95,800
New York Commercial Co.	28,600	8,200	23,100	19,100	78,900
Hagemeyer & Brunm.	29,300	2,600	29,300	400	61,600
Edmund Reeks & Co.	8,600	800	10,000	1,700	20,000
C. P. dos Santos	.....	.....	15,200	.....	15,200
Total	757,000	207,300	579,300	259,200	1,793,800

APRIL 16. By the steamer <i>Maranhense</i> , from Manaus and Para:					
IMPORTERS.	Fine.	Medium.	Coarse.	Cauchou.	Total.
Pool & Arnold	214,000	88,600	76,100	54,900	433,600
General Rubber Co.	65,900	17,300	76,500	135,000	294,700
A. T. Morse & Co.	106,200	37,400	66,000	69,700	279,300
New York Commercial Co.	52,400	18,900	37,900	.....	109,200
C. P. dos Santos	18,100	3,300	10,900	.....	32,300
Neale & Co.	5,700	1,700	22,400	.....	29,800
G. Amsinck & Co.	24,300	.....	4,700	.....	29,000
Hagemeyer & Brunm.	5,000	.....	12,500	.....	17,500
Total	492,200	167,000	307,000	260,200	1,226,400

[NOTE. The *Guangense*, from Para, was due at New York, April 25, with 715 tons rubber and 100 tons cauchou. The *Benedict*, from Para, is due at New York, May 5, with 500 tons rubber and 70 tons cauchou.]

PARA RUBBER VIA EUROPE.

POUNDS.	
MAR. 9. By the <i>Pennsylvania</i> =Hamburg.	
General Rubber Co. (Coarse).....	22,500
MAR. 20. By the <i>Georgie</i> =Liverpool:	
Pool & Arnold (Coarse).....	25,000
Pool & Arnold (Cauchou).....	35,000
New York Commercial Co. (Fine).....	11,000
APR. 8. By the <i>Rapallo</i> =Hamburg:	
General Rubber Co. (Fine).....	22,500
General Rubber Co. (Coarse).....	13,500
APR. 12. By the <i>Maltese</i> =Liverpool:	
Pool & Arnold (Cauchou).....	25,000
APR. 14. By the <i>Mapacho</i> =Mollendo:	
New York Commercial Co. (Fine).....	2,500
APR. 15. By the <i>Campagna</i> =Liverpool:	
General Rubber Co. (Coarse).....	11,500
APR. 15. By the <i>St. Louis</i> =London:	
Pool & Arnold (Fine).....	13,500
APR. 17. By the <i>Carmania</i> =Liverpool:	
Pool & Arnold (Fine).....	11,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS	
POUNDS.	
MAR. 25. By the <i>Pinar</i> =Colon:	
Andean Trading Co.....	4,500
Mann & Embler.....	3,500
Piza Nephews Co.....	1,000
George A. Alden & Co.....	1,000
MAR. 27. By the <i>Chas.</i> =New Orleans:	
A. N. Rice & Co.....	2,000
Marquette Rubber Mfg. Co.....	1,500
G. Amsinck & Co.....	1,500
MAR. 27. By the <i>Terre</i> =Bahia:	
New York Commercial Co.....	13,000
A. D. Hirsch & Co.....	2,000
Continental Mexican Rubber Co.....	2,000
L. H. Russell & Bros.....	2,000
MAR. 27. By the <i>Prins</i> =Colon:	
G. Amsinck & Co.....	7,000
Kunhardt & Co.....	1,000
L. Brandon & Bros.....	2,000
A. Held.....	2,000
De Luna & Cortes.....	1,000
Roldan & Van Sickle.....	1,000
United Fruit Co.....	500
MAR. 29. By the <i>Georgie</i> =Liverpool:	
George A. Alden & Co.....	12,000
A. T. Morse & Co.....	3,500
MAR. 31. By the <i>Yamou</i> =Tampico:	
Continental Mexican Rubber Co.....	35,000
Edward Maurer.....	90,000

CENTRALS Continued.

New York Commercial Co.....	33,000
H. Marquardt & Co.....	3,000
MAR. 29. By the <i>Orinoco</i> =Columbia, etc.:	
E. B. Strout.....	3,500
G. Amsinck & Co.....	2,000
Mecke & Co.....	1,500
H. S. King & Co.....	1,500
Columbian Trading Co.....	1,000
Roldan & Van Sickle.....	1,000
Central American Importing Co.....	1,000
J. A. Pauli & Co.....	1,000
M. Hecht.....	500
MAR. 30. By the <i>Gracia</i> =Colon:	
J. A. Pauli & Co.....	2,000
E. B. Strout.....	2,000
Eggers & Heinlein.....	1,000
Theband Bros.....	500
A. Held.....	500
MAR. 30. By the <i>Esperanza</i> =Vera Cruz:	
New York Commercial Co.....	3,500
H. Marquardt & Co.....	2,000
Isaac Kubic & Co.....	1,000
Harburger & Stack.....	1,000
E. Steiger & Co.....	1,000
MAR. 30. By the <i>El Norte</i> =Galveston:	
Continental Mexican Rubber Co.....	35,000
MAR. 30. By the <i>Finanza</i> =Colon:	
Dunarest Bros. & Co.....	4,000
G. Amsinck & Co.....	3,500
A. Santos & Co.....	2,500
Hirzel, Feltman & Co.....	1,500
Roldan & Van Sickle.....	1,500
L. Johnson & Co.....	1,500
Aramburo, Inc.....	1,000
American Trading Co.....	1,000
Piza Nephews Co.....	500
APR. 1. By the <i>Flagdancia</i> =Tampico:	
Edward Maurer.....	70,000
Continental Mexican Rubber Co.....	35,000
W. C. Coleman Co.....	5,000
APR. 1. By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	5,500
E. Steiger & Co.....	2,000
A. N. Rotholz.....	1,000
APR. 2. By the <i>Colun</i> =Colon:	
Hirzel, Feltman & Co.....	6,000
L. Johnson & Co.....	1,000
L. Brandon & Bros.....	500
APR. 4. By the <i>Caronia</i> =Liverpool:	
George A. Alden & Co.....	8,000
APR. 4. By the <i>Titon</i> =Bahia:	
A. D. Hirsch & Co.....	18,000
A. Hirsch & Co.....	5,000
Thomson & Co.....	1,500
APR. 6. By the <i>Mexico</i> =Frontera:	
New York Commercial Co.....	9,000
Harburger & Stack.....	7,000

CENTRALS Continued.

E. Steiger & Co.....	4,500
W. L. Wadleigh.....	2,500
Theband Bros.....	1,500
H. Marquardt & Co.....	1,000
Frederick Probst & Co.....	1,000
APR. 8. By the <i>Sarnia</i> =Columbia:	
J. A. Pauli & Co.....	4,000
Scauz & Co.....	3,000
Schulte & Gosen.....	1,500
A. D. Straus & Co.....	1,000
L. Brandon & Bros.....	1,000
APR. 8. By the <i>Advance</i> =Colon:	
Hirzel, Feltman & Co.....	3,500
Andean Trading Co.....	2,000
Eggers & Heinlein.....	2,000
Bartling & De Leon.....	500
APR. 9. By the <i>Hansen</i> =Bahia:	
New York Commercial Co.....	5,000
Pool & Arnold.....	5,000
A. Hirsch & Co.....	5,000
APR. 9. By the <i>Prins Joachim</i> =Columbia:	
Schloss Bros. & Co.....	5,500
J. A. Pauli & Co.....	2,500
Kunhardt & Co.....	2,500
L. Brandon & Bros.....	2,000
Scauz & Co.....	1,500
D. A. De Luna & Co.....	1,000
American Trading Co.....	1,000
Escobar & Gorgorza.....	1,000
G. Amsinck & Co.....	1,000
Graham, Hinkley & Co.....	500
APR. 11. By the <i>Armenian</i> =Liverpool:	
George A. Alden & Co.....	11,000
APR. 12. By the <i>Matanzas</i> =Tampico:	
Continental Mexican Rubber Co.....	125,000
New York Commercial Co.....	75,000
Remsch & Helde.....	45,000
Edward Maurer.....	25,000
W. C. Coleman & Co.....	11,000
Pool & Arnold.....	2,500
H. Marquardt & Co.....	3,500
Harburger & Stack.....	1,000
APR. 12. By the <i>Atrato</i> =Colon:	
G. Amsinck & Co.....	3,000
Mecke & Co.....	2,000
Wessels, Kulekamp Co.....	1,500
Andreas & Co.....	1,000
Roldan & Van Sickle.....	3,000
J. A. Pauli & Co.....	1,000
Eggers & Heinlein.....	1,000
H. Marquardt & Co.....	500
A. S. Lascellas & Co.....	500
APR. 13. By the <i>Monterey</i> =Vera Cruz:	
H. Marquardt & Co.....	1,000
New York Commercial Co.....	1,000
Harburger & Stack.....	1,000
APR. 13. By the <i>Panama</i> =Colon:	
Hirzel, Feltman & Co.....	9,000

CENTRAL S—Continued.

Roldan & Van Niekke	3,000	
Dunbar & Sons	3,000	
Mann & Fink	3,000	
Silva, Russom & Co.	2,500	
Jose Julia & Co.	2,500	
Andreas & Co.	1,500	
G. Amsinck & Co.	1,000	
Frame & Co.	1,000	
Wessels, Klenik, and Co.	500	
Piza Nephews Co.	500	
Andean Trading Co.	2,000	29,700
APR. 12.—By the <i>Prins</i> —New Orleans		
A. T. Morse & Co.	2,000	
Manhattan Rubber Mfg. Co.	3,000	
New York Commercial Co.	2,000	
Eggers & Heimann	2,500	
A. N. Rotholz & Co.	1,000	13,500
APR. 15.—By the <i>Santa</i> —Columbus		
Kunhardt & Co.	3,000	
D. Mosler & Sons	2,000	
Brunner & Molter	1,500	
G. Amsinck & Co.	2,000	
E. Brandon & Bros.	1,000	
United Fruit Co.	500	
Luzarte & Whitney	2,000	
Graham, Hinkley & Co.	2,000	
APR. 17.—By the <i>Tea</i> —Hamburg		
A. T. Morse & Co.	2,000	30,000
APR. 18.—By the <i>El Paso</i> —Galveston		
Continental Mexican Rubber Co.	3,000	
APR. 18.—By the <i>Prins</i> —Holland		
A. M. Capen's Sons	2,500	
A. Santos & Co.	2,000	
A. R. Senthall's Sons	2,000	
De Lima & Cortassa	1,000	7,000
APR. 19.—By the <i>Mexico</i> —Lima		
H. Marquardt & Co.	4,500	
New York Commercial Co.	4,500	
Humbert & Stack	6,500	
L. Steiger & Co.	4,500	
Thebaud Brothers	2,500	
Graham, Hinkley & Co.	1,000	
American Trading Co.	1,000	24,500
APR. 19.—By the <i>Albatros</i> —Colon		
G. Amsinck & Co.	2,500	
Piza Nephews Co.	6,000	8,500
APR. 22.—By the <i>Prins</i> —August Willem—Columbus		
L. Brandon & Bros.	2,000	
D. A. De Lima & Co.	1,500	
G. & J. Eduardo	1,000	4,500
APR. 22.—By the <i>Bay</i> —Bahia		
J. H. Rosbach & Bros.	11,000	
Poel & Arnold	15,000	
New York Commercial Co.	7,000	33,000
APR. 23.—By the <i>Finanza</i> —Colon		
Hazel, Feltman & Co.	6,500	
L. Johnson & Co.	2,000	8,500
APR. 23.—By the <i>Monroe</i> —New Orleans		
A. T. Morse & Co.	5,000	
G. Amsinck & Co.	2,000	
A. N. Rotholz & Co.	2,000	
Manhattan Rubber Mfg. Co.	1,000	10,000

AFRICANS.

MAR. 27.—By the <i>Mesaba</i> —London:		
Robinson & Stiles	4,500	
Poel & Arnold	2,000	
MAR. 27.—By the <i>Zeland</i> —Antwerp:		
A. T. Morse & Co.	7,000	
Joseph Canton	5,000	
W. L. Gough & Co.	2,000	
MAR. 28.—By the <i>Tenille</i> —Liverpool:		
Poel & Arnold	7,000	
W. L. Gough & Co.	2,500	9,500
MAR. 29.—By the <i>Georgia</i> —Liverpool:		
General Rubber Co.	100,000	
George A. Alden & Co.	67,000	
Poel & Arnold	34,000	
Henry A. Gould Co.	9,000	210,000
APR. 1.—By the <i>Minnetonka</i> —London:		
General Rubber Co.	20,000	
APR. 1.—By the <i>Indiana</i> —Liverpool:		
General Rubber Co.	13,500	
APR. 1.—By the <i>L. Hughes</i> —Havre:		
A. T. Morse & Co.	11,500	
Poel & Arnold	9,000	20,500

AFRICANS—Continued.

APR. 1.—By the <i>Haller</i> —Hamburg		
A. T. Morse & Co.	9,000	
APR. 2.—By the <i>Kronos</i> —Antwerp		
Poel & Arnold	14,000	
APR. 3.—By the <i>Centa</i> —Liverpool:		
General Rubber Co.	45,000	
A. T. Morse & Co.	7,000	52,000
APR. 4.—By the <i>Caroni</i> —Liverpool:		
General Rubber Co.	115,000	
George A. Alden & Co.	22,500	
A. W. Brunn Co.	4,000	
W. L. Gough & Co.	2,500	
A. T. Morse & Co.	4,500	146,000
APR. 4.—By the <i>Baltic</i> —Liverpool:		
George A. Alden & Co.	9,000	
Livsey & Co.	20,000	
A. W. Brunn & Co.	2,000	29,000
APR. 8.—By the <i>York</i> —London:		
General Rubber Co.	15,000	
George A. Alden & Co.	15,000	
APR. 8.—By the <i>Kapall</i> —Hamburg:		
George A. Alden & Co.	9,000	
Poel & Arnold	7,500	16,500
APR. 11.—By the <i>Imperial</i> —Liverpool:		
General Rubber Co.	15,000	
George A. Alden & Co.	15,000	
W. L. Gough & Co.	10,000	40,000
APR. 12.—By the <i>Underberg</i> —Antwerp:		
General Rubber Co.	27,000	
A. T. Morse & Co.	15,000	
Joseph Canton	7,000	
Raw Products Co.	4,500	53,500
APR. 13.—By the <i>Campara</i> —Liverpool:		
General Rubber Co.	45,000	
A. T. Morse & Co.	15,000	
Livsey & Co.	11,500	71,500
APR. 14.—By the <i>Sat</i> —Havre:		
A. T. Morse & Co.	11,500	
APR. 15.—By the <i>Cedre</i> —Liverpool:		
George A. Alden & Co.	15,000	
A. T. Morse & Co.	5,000	20,000
APR. 16.—By the <i>Minnetonka</i> —London:		
General Rubber Co.	9,000	
Poel & Arnold	2,500	11,500
APR. 16.—By the <i>Finland</i> —Antwerp:		
General Rubber Co.	70,000	
George A. Alden & Co.	2,000	72,000
APR. 17.—By the <i>Carmaria</i> —Liverpool:		
General Rubber Co.	22,500	
Poel & Arnold	9,000	
A. T. Morse & Co.	7,000	
George A. Alden & Co.	5,500	44,000
APR. 17.—By the <i>Frederic</i> —Hamburg:		
A. T. Morse & Co.	11,000	
APR. 18.—By the <i>Oceanic</i> —Liverpool:		
General Rubber Co.	36,000	
George A. Alden & Co.	20,000	56,000

EAST INDIAN

MAR. 25.—By the <i>Afghan Prince</i> —Singapore:		
George A. Alden & Co.	15,000	
W. L. Gough & Co.	10,000	
Joseph Canton	5,000	
A. T. Morse & Co.	5,000	35,000
MAR. 25.—By the <i>Nubia</i> —Singapore:		
Heather & Co.	15,000	
A. T. Morse & Co.	20,000	
A. W. Brunn Co.	7,000	
For Boston	2,500	44,500
APR. 1.—By the <i>Minnetonka</i> —London:		
Robinson & Stiles	13,500	
General Rubber Co.	13,500	
George A. Alden & Co.	3,000	30,000
APR. 1.—By the <i>Orin</i> —Columbus:		
A. T. Morse & Co.	5,500	
APR. 9.—By the <i>Sutsumi</i> —Singapore:		
Poel & Arnold	30,000	
Joseph Canton	11,000	
A. W. Brunn Co.	15,000	
W. L. Gough & Co.	13,500	69,500
APR. 13.—By the <i>Kronos</i> —Columbus:		
A. T. Morse & Co.	15,000	

INDIAN—Continued.

MAR. 27.—By the <i>Mesaba</i> —London:		
General Rubber Co.	15,000	
MAR. 27.—By the <i>Zeland</i> —Antwerp:		
A. T. Morse & Co.	7,000	
Joseph Canton	5,000	
W. L. Gough & Co.	2,000	
MAR. 28.—By the <i>Tenille</i> —Liverpool:		
Poel & Arnold	7,000	
W. L. Gough & Co.	2,500	9,500
MAR. 29.—By the <i>Georgia</i> —Liverpool:		
General Rubber Co.	100,000	
George A. Alden & Co.	67,000	
Poel & Arnold	34,000	
Henry A. Gould Co.	9,000	210,000
APR. 1.—By the <i>Minnetonka</i> —London:		
General Rubber Co.	20,000	
APR. 1.—By the <i>Indiana</i> —Liverpool:		
General Rubber Co.	13,500	
APR. 1.—By the <i>L. Hughes</i> —Havre:		
A. T. Morse & Co.	11,500	
Poel & Arnold	9,000	20,500

GUATEMALA

APR. 8.—By the <i>Kapall</i> —Hamburg:		
Robert Soltan Co.	7,500	
APR. 15.—By the <i>Germania</i> —Lima:		
G. Amsinck & Co.	4,500	
Frame & Co.	3,000	
Graham, Hinkley & Co.	1,000	3,000
APR. 16.—By the <i>Kapall</i> —Hamburg:		
American Hard Rubber Co.	10,000	
APR. 16.—By the <i>Mama</i> —Demerara:		
Frame & Co.	4,500	
George A. Alden & Co.	1,000	2,500
APR. 16.—By the <i>Prins</i> —Holland:		
Thebaud Brothers	11,000	
Frame & Co.	1,000	
G. Amsinck & Co.	2,500	14,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MARCH.		
Imports:	Pounds.	Value.
India-rubber	8,654,231	\$6,609,199
Balata	39,600	11,511
Gutta-percha	13,292	4,783
Gutta-jelutong (Pontianak)	2,192,894	88,072
Total	10,899,957	\$6,713,565

Exports:		
India-rubber	155,635	\$112,862
Balata	5,810	3,488
Reclaimed rubber	94,743	9,000
Rubber Scrap imported	131,931	\$135,519
Rubber Scrap exported	11,034	519

BOSTON ARRIVALS.

POUNDS.		
MAR. 4.—By the <i>Isere</i> —Liverpool:		
Poel & Arnold—Centrals	7,510	
MAR. 13.—By the <i>Michigan</i> —Liverpool:		
George A. Alden & Co.—Africans	11,842	
Poel & Arnold—Africans	149,876	82,928
MAR. 18.—By the <i>Afghan Prince</i> —Singapore:		
George A. Alden & Co.—East Indian	1,181	
MAR. 20.—By the <i>Sachem</i> —Liverpool:		
George A. Alden & Co.—Africans	22,649	
MAR. 26.—By the <i>Centa</i> —Liverpool:		
Poel & Arnold—Africans	4,734	
Total	110,702	
Value, \$84,343.		

EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

MONTHS.	UNITED STATES					EUROPE					TOTAL.
	Fine.	Medium.	Coarse.	Cauché.	Total.	Fine.	Medium.	Coarse.	Cauché.	Total.	
January	850,678	197,179	605,168	46,187	1,699,212	824,310	97,095	253,622	275,428	1,450,455	3,149,667
February	1,494,060	304,751	738,457	207,093	2,745,870	1,289,917	103,605	485,527	288,159	2,867,208	5,613,075
March	1,085,429	288,328	712,124	338,800	2,424,681	1,423,233	159,551	409,168	784,001	2,876,953	5,258,234
Total	3,340,776	790,258	2,055,749	682,080	6,869,703	3,534,490	420,251	1,205,317	1,288,185	7,148,243	14,017,976



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MAY 1, 1907.

No. 2.

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Liverpool.

WILLIAM WRIGHT & Co. report [April 2]:

Fine Para.—The demand at the beginning of the month was fairly good, but latterly, with the heavy receipts and monetary uneasiness, market buyers have withdrawn from active operations, and prices are 1½d. to 2d. per pound lower. America has been quiet, but it is expected to reënter the market shortly, so that the present moment seems a favorable one for manufacturers to operate.

EPMUND SCHLUTER & Co. report [March 31]:

The market during March has again been comparatively quiet, with a further decline both in Brazil and in the home markets, owing to the large receipts at Amazon ports. There is no doubt rather a large supply of rubber at the moment, which if pressed for sale might not find buyers except at a further slight concession.

WORLD'S VISIBLE SUPPLY OF PARA, MARCH 31.

	1907	1906	1905	1904	1903	1902
Tons.....	5360	4680	4385	2686	4005	5058
Prices, hard fine 4 11/12	5 5	5 6	4 8 1/2	3 9 1/4	3 11 1/4	

LIVERPOOL STOCKS OF AFRICAN RUBBER, MARCH 31.

1907.....	373	1904.....	402	1901.....	862
1906.....	344	1903.....	387	1900.....	663
1905.....	304	1902.....	513	1899.....	422

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1907.....	8,437,537	379,719	8,057,818
January.....	6,473,939	292,892	6,180,147
Two months, 1907.....	14,910,576	672,611	14,237,965
Two months, 1906.....	13,148,240	987,488	12,160,752
Two months, 1905.....	17,358,994	350,856	17,008,108

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1907.....	2,452,120	1,279,720	1,181,400
January.....	2,930,620	1,419,880	1,510,740
Two months, 1907.....	5,382,740	2,699,600	2,683,140
Two months, 1906.....	8,955,080	2,666,180	6,288,900
Two months, 1905.....	7,231,180	2,597,980	4,633,200

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1907.....	.....	.....	.....
January.....	1,583,560	1,049,840	533,720
Two months, 1907.....	.....	.....	.....
Two months, 1906.....	4,686,520	2,477,320	2,209,200
Two months, 1905.....	4,552,460	1,946,780	2,605,680

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January.....	1,259,335	994,725	354,610
February, 1907.....	2,060,425	888,120	1,172,296
Two months, 1907.....	3,319,760	1,702,854	1,526,906
Two months, 1906.....	3,313,189	1,521,091	1,792,098
Two months, 1905.....	3,110,666	1,896,239	1,214,367

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1907.....	5,995,680	2,686,544	3,279,136
January.....	5,867,568	3,401,328	2,466,240
Two months, 1907.....	11,833,248	6,087,872	5,745,376
Two months, 1906.....	10,666,272	6,156,102	4,510,080
Two months, 1905.....	10,086,496	6,603,976	3,482,520

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1906.....	217,360	32,780	184,580
January-November.....	2,363,460	369,160	1,994,300
Twelve months, 1906.....	2,580,820	401,940	2,178,880
Twelve months, 1905.....	1,687,180	260,290	1,426,920
Twelve months, 1904.....	1,471,360	140,580	1,330,780

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
December, 1906.....	425,920	71,720	354,200
January-November.....	3,768,690	794,360	2,974,240
Twelve months, 1906.....	4,194,520	866,680	3,328,440
Twelve months, 1905.....	3,015,540	45,320	2,970,220
Twelve months, 1904.....	2,929,520	15,620	2,913,900

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

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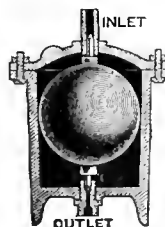
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CURING RUBBER IN BULK.

WITHOUT doubt a notable step in economy in the production of raw rubber in the Far East has been taken in the last year or two, particularly on the larger plantations. The coagulation of rubber in ordinary dinner plates was all well enough in the days when only a few pounds were to be dealt with, and the object was, first, to determine whether the planted trees would yield rubber, and, secondly, to find out how the product would be received by the manufacturers.

But these questions having been settled satisfactorily, and the rubber production of Ceylon and Malaya having reached a million pounds a year, with the prospect of a constant and rapid increase, the former laboratory scale of operations has become inadequate. The estate manager with a few hundred pounds in a season to deal with might have treated the rubber in his dining room, had he cared to do so. Handling a thousand pounds a day, and more, as some of them will be doing soon, is an entirely different proposition. Much cheaper methods than handling latex, by the saucerful become necessary, since the first object of the rubber plantation is returns for the shareholders from the proceeds of rubber sales. It is interesting to note in how many ways economical methods have been evolved for handling Ceylon rubber on a comparatively large scale— for treating it in bulk, so to speak. Only

in this year or two have we seen a method of curing 17 cents a pound, which is a considerable saving on the old method of \$1.30 or \$1.40 a pound.

And in view of the fact that the rubber interest it is not too far off to say that the further improvement of the curing process is a matter of time, there are yet to be recorded some of the most interesting relating to the Far East. It is true that the new ideas prove applicable to rubber in general. Here we see the Amazon, a case in point, discharging this year probably 80 pounds of rubber for every pound of plantation rubber from the Brazilian system. It is true that the Amazon output, for the most part, is smoked in preparation, while the other is not, but if the smoking is essential and thus far it seems to be— why may not processes and apparatus be devised for smoking rubber in bulk instead of by piecemeal, as now practiced on the Amazon?

We do not doubt that some such practice will be evolved and will become general wherever *Hevea* rubber is produced, whether in forests or on plantations.

THE VALUE OF A RUBBER TREE.

IT is natural that the British investors who have put so many millions into the new business of planting rubber should feel an interest in all the details of what there is to show for their money, and the directors of the rubber companies, in preparing their annual reports, show evidence of a desire to satisfy a laudable curiosity. Hence we find generally in these reports a definite statement of the number of rubber trees planted, if not an exact census of the trees actually standing at the date of the report, with the ages stated. These figures, in the aggregate, seem large, but the mere existence of trees is not conclusive evidence of wealth. On many of the newer plantations, of course, they are merely the basis of hopes.

But this year the tree censuses are much more interesting than statistical tables generally are, for the reason that in a number of the reports, side by side with the number of trees, is mentioned the amount of rubber produced, followed by a statement of profits, and the details of dividends. When, for instance, it is shown that 11,348 trees, averaging less than seven years, yield 32,093 pounds of rubber— an average of nearly 3 pounds per tree— which sells at an average of \$1.21 a pound, after deducting the selling expenses, the study of the value of a tree as an asset becomes of interest. In this case the dividend disbursed less than the total net earnings, works out at \$2.37 per tree. Capitalized on an 8 per cent basis, this gives the trees a value of \$30 each, or between \$3,000 and \$6,000 per acre of trees, according to the closeness of planting. The same result is shown by another company, which paid \$91,888 in dividends based on the output from 81,500 trees, yielding an average result of \$1.13 per tree, and capitalized on an 8 per cent

The list could be extended indefinitely, but the results would be incomplete, for the reason that in the case of each company the expenses of the whole plantation are charged against the returns from the income producing trees. Otherwise the value per tree, measured by its earning capacity, would appear much larger. But our figures will at least suggest a reason why shareholders in the planting companies are so much interested in the actual number of trees they own.

FOR THE IMPROVEMENT OF COTTON.

TO most people, no doubt, cotton is cotton—all alike. In these pages last month was discussed the difference between the products of different cotton plantations and also in the growths from different seed, with a view to pointing out, for instance, to rubber manufacturers, that a wider choice in cotton fiber lay before them than perhaps was generally recognized. But there is another respect in which a difference in cottons exists. It is based upon the treatment of the fiber in its preparation for market.

The *New York Journal of Commerce* attributes a certain lack or backwardness, so to speak, in methods and processes of dealing with raw cotton among the planters of the southern United States to the fact that they have had for so long a practical monopoly of the production of this important commodity. With practically the whole world depending upon them for a supply, and the possibility of competition hardly deemed worthy even of consideration, the American cotton planters have worked along the lines of a maximum of production with a minimum of effort and care. The world was obliged to buy their cotton, and to take it in whatever shape it might happen to be put up. As the *Journal* says: "The way American cotton is treated in its preparation for the markets at home and abroad is a shame to the country, a vexation to manufacturers, and a source of waste and loss to all concerned."

One of the objects of the proposed meeting together of the cotton manufacturers and the cotton growers at Atlanta next fall is to provide an opportunity for discussion of such details as improved ginning, compression, baling, and the like, with a view to the future avoidance of the real damage to the fiber that results from existing careless methods. Whatever tends to improvement in these respects cannot fail to be of advantage to an industry in which so much cotton is called for as in the rubber manufacture.

PATENT LAW PROTECTION.

A NUMBER of tire patent infringement suits have been filed in this country recently, most of them relating to patents granted years ago, and now nearing their date of expiration. Some of the patents have been the subject of litigation before. Suits are pending now

for the infringement of patents the validity of which was supposed to have been established by broad decisions long ago.

But the price of patent protection is eternal vigilance. It will be remembered that the Dunlop tire patent in England, though defended successfully through every court having jurisdiction, including even the House of Lords, continued to be the subject of actions at law as long as the patent existed. The same tendency appears in this country, showing that the law "securing to inventors the exclusive right to their discoveries" is less effective than one might think from the first reading of it.

In truth, the law secures nothing to an inventor but a certain defined standing in court which he might not have otherwise, and unless he have money to pay lawyers that standing will do him mighty little good. Inventors as a rule are not blessed with wealth, and we have seen how Goodyear, for instance, would have been unable to protect his vulcanization patent without the help of his licensees, who thereby became the practical owners of the patent and the real beneficiaries under it. Could Tillinghast have protected his "single tube" tire patent in any court in the land? Could Grant, the patentee of the solid tire, had he retained ownership of the patent as an individual, have prevented the manufacture of the tire from becoming open to the world? Only a man of means can hope to be able successfully to oppose the unauthorized use of an invention of which he is the author, the patent laws to the contrary notwithstanding.

This situation is not new, nor is the general appreciation of it new. But a different condition is not to be attained by merely amending the patent law; there must be a radically different idea involved. Today an inventor files specifications of an invention which he claims as his own, after which he is entitled to defend his rights to the invention, in the United States courts—if he be able to pay for competent legal advice.

What we wish to submit as being worthy of consideration is the idea of having a national tribunal, to which an inventor, protected by a patent, could appeal in the event of his rights being infringed—the poor inventor on the same terms as the rich one. It might be too much to ask that the government protect without limit every right claimed by an inventor under a grant of letters patent; on the other hand, is it equitable that the inventor should have no protection from the government beyond the right to sue at law whoever may seize his property without compensation?

How long would a condition be tolerated under which, if A should steal B's watch, the only redress open to B—and the only protection to society—would be for B to retain counsel and prosecute the alleged thief, without relying upon the State for any assistance?

WITH RUBBER GRADUALLY DECLINING IN PRICE for a year past little talk has been heard of speculation as a factor in the market. Why? Does the "speculator" work only to "bull" prices, and

chiefly at times when prices are at the top notch. If the afore-said speculators can, by merely willing it, materially increase the cost of rubber to consumers, why have they now let prices drop to the lowest figures for three years past? While these questions appear to be in order, it does not seem to be out of place to remark that the present market situation in raw rubber evidently is a direct result of conditions of supply and demand. It might be added that the true speculator can work when prices are falling as well as when they are on the rise, and we have no guarantee that prices may not go still lower to further the interest of some selfish secret factor in the trade.

THEY WEAR GALOSHES NOW IN JERUSALEM; in fact, there are not many places outside the tropics where rubber footwear has not found its way. But in spite of the steady growth in the consumption of such goods, the exports of the American product show no increase, though other American rubber goods go abroad in larger volume all the time. A consul writing from the Levant intimates that while American "rubbers" attract at first by their lightness and neat appearance, they do not last as long as the heavier makes of some other countries. Who ever can produce an overshoe that is at one and the same time lighter, stronger, and lower priced than any other can hope for a wide market in the East.

Forty thousand automobiles in New York do not call forth nearly so much comment as 10,000 rubber-tired, horse-drawn cabs in London a few years ago, as affording an important outlet for the rubber factories. The rubber vehicle tire has become too commonplace to attract any such popular attention as formerly. All the same it seems worth while to note that a single firm is under contract to supply 20,000 motor cabs for London streets, all to be equipped with rubber tires. And ten years hence no doubt to-day's figures of rubber tire production will be thought as insignificant as those prior to the date of Dunlop's first patent now seem.

THE LATEST "RUBBER KING" is Menelik, king of kings and emperor of Ethiopia, or Abyssinia, as we call it. His country, of no mean extent, appears to be rich in rubber of good quality, and its exploitation has been begun on an important scale. Menelik differs from the other native rulers in the African rubber belt in that he is still "boss" in his own country, with the power to grant concessions without outside control or interference, and it will be interesting to watch the development of the new rubber interest in his dominions, it being taken for granted that having seen it once started, he will desire to see as large an output as possible.

WE HAVE MUCH PLEASURE IN WELCOMING to the field of technical journalism Mr. Herbert Wright, who lately resigned his post as controller of the experiment station in Ceylon, after much creditable work in connection with rubber culture, to return to England, and whose appointment as editor of our London contemporary, *The India-Rubber Journal*, is now announced.

A NEW CROP OF ARTIFICIAL RUBBERS comes with every year, many of them the subject of patents, but as yet none seems to have been developed by a practical rubber man. Evidently the less one knows about rubber the more apt he is to attempt to supply the "long felt want" for a rubber "substitute."

WHAT HAS BECOME OF THE "RUBBER FETTER" that all the newspapers used to feel obliged to attack so vehemently every few weeks?

AT WHAT PRICE HAVE do manufacturers buy crude rubber most freely?

THE RUBBER INDUSTRY IN JAPAN.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the close of our war with Russia, the industries of Japan have been increasing at an unprecedented rate. More than 200 new industrial enterprises have been incorporated, with an aggregate capital stated at about 150,000,000 yen (\$75,000,000), and the construction of new factories is proceeding actively in consequence. Five new concerns have been incorporated in the India rubber and insulated wire branches as follows:

Tokyo Gomu Kaimushiki Kaisha (Tokyo Rubber Co., Limited), capital, 1,000,000 yen. They are now in position to manufacture mechanical rubber goods. One of the incorporators is C. Ogiwara, who was the founder of the Oriental Rubber Co., of Tokio, though he had not been with the latter company for some years. (For an account of the latter see THE INDIA RUBBER WORLD, July 1, 1906, page 279.)

Nippon Densen Kaisha (Japan Electrical Wire Co., Limited), at Tokio, capital, 1,000,000 yen.

Tokyo Densen Kaisha (Tokyo Electrical Wire Co., Limited), at Tokio, capital, 1,000,000 yen.

Nippon Densen Seizo Kaisha (Japan Electrical Wire Manufacturing Co., Limited), at Osaka, capital, 1,000,000 yen.

Teikoku Densen Kaisha (Imperial Electrical Wire Co., Limited), at Osaka, capital, 2,000,000 yen.

The first four companies will make insulated wires, as their names indicate, and some of them have started work, but chiefly on weather-proof wire.

The Tsuda Rubber Works, at Kyoto, owned formerly by an individual, have become incorporated as Tsuda & Co. They manufacture electric wires only, but are enlarging their plant.

The Yokohama Electrical Wire Co., Limited, have increased their capital to 1,200,000 yen, and are enlarging their factory.

The Fujikura Insulated Wire and Rubber Co., manufacturers of insulated wires and mackintoshes, at Tokio, continue to expand, both in the extent of their building and their capacity for production.

The Tokio Industrial Exposition opened in Ueno Park on the 26th instant and is to continue until July 1. It is not yet complete, but doubtless will contain not a few exhibits illustrating the progress of the rubber and allied industries in this country.

K. OKADA.

Tokio, Japan, March 23, 1907.

[DETAILS regarding the older rubber factories in Japan appeared in THE INDIA RUBBER WORLD August 1, 1905, page 370.]

GUAYULE INTERESTS.

AN act of the Texas legislature, to become effective on July 1, authorizes the commissioner of the general land office in that state, with the approval of the governor and attorney general, to sell the guayule shrubs found on any school lands in Texas. "The sales may be upon such terms, conditions and limitations as they may deem most advantageous, having in view the best interests of the school fund and the state."

A guayule rubber factory now being erected at Ciudad Juarez, Mexico, is the first in the state of Chihuahua. The location is just across the Rio Grande from El Paso, Texas, and the capital is supplied by citizens of the latter place, headed by Frank Kirk, who is general manager. Machinery is being made at El Paso for a plant capable of treating 15 tons of shrub daily. The object of building across the river is to avoid paying an export duty on the guayule slabs (\$15 M. S. per ton), while the manufactured product can be brought into the United States duty free. The enterprise is to be operated as the Rio Grande Rubber Co., a corporation registered April 10, 1906, under the laws of Oklahoma. The process to be used, which is patented, without employing any chemicals, is covered by a Mexican patent granted to Seth Kirk, M. C. 24,129.

THE COTTON MANUFACTURERS MEET.

At the annual meeting of the National Association of Cotton Manufacturers (Boston, April 24-25) the president, Mr. James B. McColl, in his address, referred to the great and continued prosperity in the United States of the industry which this association represented. He declared that adequate consumption, or at least demand, existed for the employment of every spindle in the country. Although there had been a normal addition during several years past to the number of spindles, the imports of cotton manufactures into the United States had increased last year by \$14,500,000, while exports had decreased \$13,500,000. Yet there had been no evidence of over supply or glutted markets. Extension of foreign trade is for the time ignored on account of the home demand absorbing all the output.

This condition of prosperity was not confined to America. A year ago England's increase of 6,250,000 spindles had been recorded, and now reports show 10,000,000 spindles added or projected within five years. Meanwhile the industry is making progress in other countries. If, said Mr. McColl, from any cause there should be an insufficient demand for the product of England's enormous number of spindles, there might be expected an influx of foreign made goods into this country, at prices below the capacity of our manufacturers to produce. It was important, therefore, for economy of production to be studied to the utmost. The United States had been in the lead in the use of labor-saving machinery, but this condition would not necessarily continue. He quoted reports showing that in England in 1882 571 employes were required for 1,000 spindles; in 1893 the number had fallen to 486 persons, and to-day 2½ hands per 1,000 spindles is considered a maximum in the more modern mills.

As a means to furthering the interest of the manufacturer, and rendering him capable of with-standing any competition, the speaker was pleased to note a growing tendency toward closer relations and a better understanding with the cotton growers, who now have an organization for mutual interest. The manufacturers' association would hold a meeting at Atlanta in October which, it was hoped, would be helpful in advancing the better understanding referred to and afford a common basis for the discussion of the preparation and marketing of cotton, the question of contracts, and so on.

President McColl felt that the cotton exchanges had a legitimate relation to the trade, and he would like to see an exchange in New England, in which section so large a proportion of the cotton industry has its seat. The establishment of fixed standards of grade and staple and a system of arbitration by sworn classifiers would be of great value to New England spinners. He would like to see developed there the spot feature of the Liverpool market. A concentrated stock of spot cotton in New England, such as always exists in Liverpool, where the English spinner can go at almost any time and find what he needs, would lead to an important economy of money and time.

In a paper on "The Textile School a Necessity to the Future of the Industry" Edward W. France, director of the Philadelphia Textile School, declared that a great scarcity existed in the way of artisan labor spinners, weavers, and machine tenders in general in the cotton industry. Not only were technical schools needed for the training of more and better workmen, but it should be considered that goods were rendered salable by their attractiveness as well as their utility, and the matter of artistic training should be included in the scope of the schools.

The membership of the National Association of Cotton Manufacturers, which is by no means confined to the United States, is divided about equally between those who are interested on the financial side of cotton manufacturing and those who are occupied with the technical side. The work of the association during the year has had to do with perfecting cotton statistics and with the cotton goods.

ZAKINGUMMI.

A FRENCH patent issued to Zacharias Olsson, of Upsala, Sweden (No. 369,719, application of September 13, 1906), to cover the manufacture of an "artificial caoutchouc," relates to the material referred to in various recent publications as "Zakingummi." According to the specification it is produced by mixing colloid and hygroscopic substances—for instance, glycerine, chlorate of calcium and chlorate of magnesium—with water and neutral substances, in mills, and introducing into the homogeneous mass chrome salts or other substances that exercise an effect on colloids when exposed to the light. Additions of paraffine or mineral or fatty oils are also advantageous. The mass can be colored by additions of ochre, red lead, vermilion and aniline colors as desired.

The inventor is understood to be an apothecary who formerly was employed as a factory chemist. He claims that his product contains no trace of rubber, all its constituents being of vegetable origin and obtainable in Sweden. He claims that for almost all purposes it is a perfect substitute for rubber and that its cost is one-third less than rubber. According to Swedish newspapers experts of standing, including L. Anderson, director of a rubber factory, express skepticism in regard to the invention. They call attention to the fact that samples of "Zakingummi" shown at the Norrköping exhibition possessed no capacity for resisting moisture, nor could it be used for insulation purposes.

The *Gummi-Zeitung*, after an investigation of a small sample, says that whatever the material may be, "it certainly is not a substitute for rubber." Immersion for a brief period in water causes it to crumble; in a dry condition it is readily divided by the finger nail, and it offers no resistance when operated on with a file. The fact that it is not affected by machine oil, for instance, as certified by the materials testing laboratory of the Royal Swedish Technical High School, does not compensate for the lack of elasticity and resistance to water. The *Gummi-Zeitung* compares this material with the many hardened colloid substances that have been "invented" in Germany, and expresses the opinion that "Zakingummi" will not be found patentable in Germany as a substitute for rubber.

MURAC.

THE name Murac has been given to a commercial product resulting from the treatment, by a new chemical process, of the latex of certain plants of the *Sapotecae* family, said to be abundant along the Amazon river, in Venezuela and the Guianas, some of the West India islands, Africa, Madagascar, and Australia. These trees are referred to as yielding latex freely, so that the supply is practically inexhaustible. Thus far, however, the new process is understood to have been applied only to badata. Murac is referred to, not as a substitute for india-rubber, but as being serviceable for use in connection with low grade qualities of rubber and bringing them up to a higher standard. Certain rubbers, for example, are mentioned as having been more than doubled in value by the addition of a few pence worth of Murac to a pound in weight of the rubber to be improved. Murac, however, is vulcanizable alone, and may be used for many mechanical purposes, without the employment of other rubber, under treatment similar to that given to gutta-percha. It is also capable of being used in liquid form, particularly for waterproofing. The rights to the new process are owned by The Murac Syndicate, Limited, subsidiary to which is the British Murac Syndicate, Limited, registered in London on March 20, 1907, with £12,500 [= \$60,831] capital, to exploit the material referred to in Great Britain.

Mr. R. W. BURGESS, manager of an important rubber plantation in the Malay peninsula, has received permission from the Java government to recruit 500 coolies there to labor on his estate.

Trade Conditions in the Congo.

THE entrance of an American company in the Congo trade marks a new departure in the relations abroad of commercial firms in this country. Large as has been the consumption of India rubber in the United States—amounting probably to more than half of all the rubber ever produced—the interest of American traders in this commodity has seldom extended to the point of obtaining the raw material from its prime sources. There is to-day, so far as we are informed, no American company or trader concerned in exploiting rubber in the Amazon valley, for instance, or figuring in the trade there in any way other than buying at Para or Manaus rubber brought into those ports for sale. The business of obtaining rubber from the forests has never appealed to any form of American enterprise, at least not to an important extent.

The rubber fields of Africa have seemed even more remote, and the demand for rubber from that continent has been supplied through purchases made in European markets. The abstention of Americans from the African trade has been due, in part, to the fact that the "Dark Continent" has been exploited only as one portion after another came to be appropriated by the European powers, and as a rule trade in the different colonies has been monopolized by the people of the respective mother countries.

The collection of rubber in the Congo region, therefore, through relations with the natives, will be found a business in which the Americans about to become interested in it will have much to learn. It happens, however, that the American Congo Co.'s shares are held in part by Belgians experienced in this particular field, while the relations with the Congo Free State government give the company all the protection and support that can be granted to any enterprise of like character. The *Conseil d'administration* of the American Congo Co. is composed equally of Americans and Belgians. Of the six European members of the board, three have been officers in the Belgian army, involving military service on the Congo, and have held positions in the Free State government. The knowledge which these gentlemen have gained through such experience has led to their being consulted in the planning of commercial enterprises in the Congo basin, and to their becoming interested in company management. The fourth of the Belgian directors is actively engaged in a Congo trading company as manager; the fifth is a manager

of Brussels—and the sixth is an engineer and railway manager.

In view of these considerations, and the further fact that the projected American enterprises are of the character similar to, and will be located in the same region, with some important and successful Belgian trading companies, the absence of expert knowledge of Africa on the part of the American director need not necessarily be an element of weakness in the organization of the new business.

The prominence of the capitalists attending to the American Congo Co. and the allied forest and mining companies, as well as naturally to direct public attention to the proposed operations in a new field, and doubtless will tend to broadening the knowledge of, and interest in Congo conditions and in its people, among the American people. Assuming that its American readers will be interested now and then in some of the details of the new sources of rubber which the company allude to, we referred to propose exploiting, THE INDIA RUBBER WORLD has arranged to present occasionally facts and pictures concerning such subjects. A few such pictures are presented in connection with this article. In the Congo Free State, as in most other African regions under European control, the natives must be reached and dealt with through their chiefs, who are permitted to retain in the eyes of their people their traditional power and importance.

It is such native dignitaries that trading companies must take into account at every step. Such an one is the big and powerful Gonzoba Mokoko N'Kuefou, chief of Bankana, on the river Kwango, in the southern part of the area held under concession by the American Congo Co. (see THE INDIA RUBBER WORLD, January 1, 1907, page 106). In two of the illustrations given herewith Chief Gonzoba is shown surrounded by some of his native gentlemen and ladies in waiting, being received at the trading station of the "Citas" company, on Stanley Pool. It is Gonzoba with whom the new company will have to treat for rubber.

A RECENT address before the Cercle Africain, of Brussels, by E. Harroy, described as having spent six years on the Congo as a commercial agent, gives some details of the way in which trade is carried on with the natives. In the first place, "such trading is carried on in the Congo as in Europe, only government agents



CHIEF GONZOBA AT "CITAS"

[The chief is the central figure, with exquisitely dressed men and women in waiting.]



CHIEF GONZOBA AT "CITAS"

[The chief, at left, in center, is seated, and surrounded by his men and women in waiting.]



NATIVES DELIVERING RUBBER AT A POST OF THE CIE DU KASAI.

ness and fairness. In Europe the trader, whatever he may have to sell, secures customers by studying their tastes and requirements, and by trying to give them satisfaction. "In the Congo the native has scarcely any wants; he would prefer never to have any; what we must do is to create wants. To create wants is the difficult task which requires a minute knowledge of the native's nature, his weakness, his customs, habits and language."

In a region not yet opened in any sense to trade the work of finding out its resources and the possibilities for trading must be carried on by tactful and peaceable exploration by experienced agents. The white man is looked upon with suspicion, and the penetration for the first time of the native districts may be even dangerous. What is necessary as a foundation of business is to induce the natives to work—say at getting out rubber—by the allurements of wealth, which, at the outset they pretend they can do without, as idleness is, in their eyes, the acme of happiness.

But to try to deal with the natives singly would require a vast deal of time. The white man addresses himself to a chief. His belongings are shown to the best advantage—his bed, blankets, boxes, tools, cooking utensils, knives and the like, which must be carried by the commercial agent for his own use, together with cloths or ornaments chosen to attract the eye of the natives. The chief has the advantage that if he lacks the means wherewith to buy, he can obtain it by directing his people to go to work. If the chief is led to desire blankets, for example, he learns that so much rubber, which his people can soon learn to prepare, will secure them, and thus is laid the foundation for trade relations. To maintain and extend these absolute fairness in trading is essential.

It is not always easy to agree with the native in fixing the price in rubber of the various articles submitted to him. Such matters cannot be settled arbitrarily. "Every article must be valued not according to what it costs us in Europe, not according to its cost price in Africa, but according to the value which it has in the eyes of the natives so as to please them. It happens that different articles which vary greatly in size and weight and which therefore incur a very unequal cost of carriage, represent the same or practically the same value to us out in Africa." Thus in the eyes of the natives a shirt or two pounds of salt might represent three hens; a fez or a hat, one hen; and two yards of cloth, two hens. Here are three different valuations for classes of goods which have cost the trader the same price. The administration in Europe which sends out goods for sale may insist upon having certain definite returns; the agents on the spot, studying conditions, proceed thus: They sell some articles, which are not much valued at home, at a price surpassing the fixed limit, and sell others which are valued higher at home but are less desired by the natives, at a price which establishes a just proportion in the eyes of the administration.

All of which leads up to the question of the prices paid to the natives for rubber. Mr. Harroy told his audience: "But it ought not to be said: 'You only pay a trifling amount for your rubber'; this is not true. No one can tell without being on the spot what is the real price paid to the native."

In time trade may expand in such a district as is referred to above until the natives generally will desire to obtain goods from the stations and be found willing to work to acquire them. A third picture in this connection represents the reception of rubber from native gatherers at a trading post of the Compagnie du Kasai, who have now been engaged in business in the Kasai basin for a number of years and are among the principal collectors of rubber in the Congo Free State.

A CONGO "ROOT RUBBER" PLANT.

AN increasing interest is being displayed in the "root rubber" species in the Kwango district of the Congo Free State, especially since the formation of the American Congo Co., whose accession is understood to embrace an abundant supply of the plant known as *Landolphia Thollonii*, which was illustrated and described in THE INDIA RUBBER WORLD May 1, 1903 (page 261).

A correspondent of THE INDIA RUBBER WORLD writing from Kinshasa sends some specimens of rubber prepared by natives of the Kwango district—adjacent to the concession of the American Congo Co.—by methods of their own, and it is good rubber. Our correspondent has analyzed similar specimens with this result: "Rubber, 80 per cent.; resins, 6; ash, 1; vegetable matter, 4 per cent." The American company now becoming interested on the Congo purposes applying to the roots of the *Landolphia Thollonii* the same methods of extracting rubber that have been worked successfully with the guayule plant in Mexico.

Our African correspondent mentions at least two other plants in the Kwango region resembling that named above, and likely to be mistaken for it. One is the *Landolphia humilis*, described as an indifferent rubber producer; the other is entirely worthless. The illustration shows roots of the *Landolphia Thollonii* with the leaves and fruit; also, at the bottom of the picture, on the left and right, leaves of the two other plants.

An interesting report comes from Mexico regarding experiments made with the *bagasse* which results from the extraction of rubber from guayule shrubs, with a view to its use for fuel. They have been carried on by a chemist of the Continental Rubber Co. at Torreon. At present one-half of the fuel used at the company's extraction plant there is refuse from the guayule shrubs worked up, and it is now being considered whether the refuse in question can be an absolute substitute for coal, which is very expensive in that region.



CONGO "ROOT RUBBER" PLANTS.
[The distance between the two points on the scale is 18 inches.]

Progress of Rubber Culture.

RUBBER PLANTING RESULTS.

THE annual reports to the shareholders of rubber plantation companies in the Far East, prepared in many cases by persons of long experience in the rubber and plantation work, are beginning to include many details of practical value in relation to rubber culture. For the present, however, these reports are not always as satisfactory as they might be if patterned after a common model, in order to allow for fuller comparison, one with another. Below are presented a few figures from the reports of several Ceylon and Malay States companies now producing rubber.

STATISTICS OF YIELD.

The reports of 14 companies relate to the collection of 328,200 pounds of rubber in 1906 from about 241,415 trees, but details are lacking as to the product of different ages. In a few cases the trees have been tapped for the first time, in others, part of the trees have been tapped one, two, and three years previously. The 880 trees on the Golden Hope estate, which yielded an average of 3 pounds, are 8 years old. Some of the young trees included in these reports yielded less than 1/2 pound each. Details for the 14 companies follow:

	Pounds.	Trees.	Average.
Sandycroft Rubber Co., Ltd.	16,507	13,040	1.26 pounds.
Pataling Rubber Estates, Ltd.	43,340	39,330	1.10 pounds.
Bukit Raiah Rubber Co., Ltd.	33,203	a 33,203	1.1 pounds.
Keptigalla Rubber Estates, Ltd.	42,042	21,500	1.98 pounds.
Yatayantota Tea Co., Ltd.	8,700	4,630	1.90 pounds.
Ciechy Rubber Estates, Ltd.	9,184	6,010	1.52 pounds.
Golden Hope Rubber Estate	2,640	880	3 pounds.
Kalutara Co., Ltd.	8,128	4,330	1.87 pounds.
Union Estate Co., Ltd.	758	400	1.89 pounds.
Shelford Rubber Estates, Ltd.	6,888	9,630	.71 pounds.
General Ceylon Tea Estates	10,574	5,924	1.78 pounds.
Blackwater Estate, Ltd.	13,033	8,744	1.5 pounds.
Consolidated Malay Rubber Co., Ltd.	32,603	11,348	2.88 pounds.
Anglo Malay Rubber Co., Ltd.	100,010	b 81,500	1.23 pounds.
Total	328,200	241,415	1.36

[a—Estimated. b This figure represents the number of trees standing, 6 years old or over.]

In several cases the yield exceeded the estimates made in advance. The Seramban company, not named in the table, figured on 35,000 pounds and collected 62,268. The Anglo Malay estimated about 53,000 pounds and collected more than 100,000.

The Highlands and Lowlands Para Rubber Co., Limited, not named in the table, collected 130,305 pounds in 1906. They have 26,023 trees 8 years old and 38,205 from 5 to 6 years. The number actually tapped is not stated.

In most cases figures are not available of the yield of the plantations for 1905, but it can be stated that five estates producing 95,440 pounds in that year had an output of 101,930 pounds in 1906.

PRICES REALIZED.

The prices realized for rubber by the several companies are figured out in averages, fine rubber and scrap not being dealt with separately. The Sandycroft company reports a yield of 12,717 pounds of sheet and 3,401 pounds of scrap, but in general the proportion of scrap is not indicated. The prices realized are not always stated on the same basis. Thus the Seramban company gives the average gross price obtained at Colombo, and the Pataling Rubber Estates net price obtained in London. In a few cases the cost per pound of harvesting and marketing the rubber is given, but in this respect the basis of estimating differs. The figures in this table relate to values expressed in American money:

	1906	1905	1904
Keptigalla Co., Ltd.	\$8.25	\$8.25	\$8.25
Union Estate Co., Ltd.	26.00	26.00	26.00
Yatayantota Tea Co., Ltd.	26.00	26.00	26.00
Anglo Malay Rubber Co., Ltd.	4.00	4.00	4.00
Eastern Produce Co., Ltd.	8.00	8.00	8.00
Golden Tea Plantations	26.00	26.00	26.00
Seramban Estate	6.00	4.00	4.00
Bukit Raiah Rubber Co., Ltd.	8.00	8.00	8.00
Pataling Rubber Estates	18.88	18.88	18.88
General Ceylon Tea Co., Ltd.	57.4	57.4	57.4
Blackwater Estate	6.00	6.00	6.00
Ciechy Rubber Estates	77.5	77.5	77.5
Consolidated Malay Rubber Co., Ltd.	69.0	69.0	69.0
Sekinger Rubber Co., Ltd.	64.88	64.88	64.88

It appears to be correct to say that the price of rubber in the Malay States, then in Ceylon, though it is open to question, is this difference, when the labor problem has been taken into consideration. In most cases the price given is net price, that is, selling costs deducted.

DIVIDENDS.

The Seramban Estate Rubber Co., Limited, for the year 1906-1907 reports profits equal to 27.28 per cent. on the paid up capital, after paying interest, directors' fees, and other charges on labor account which are not expected to be recovered. The dividend declared is 24 per cent.

The Pataling Rubber Estates Syndicate, Limited, declared dividends amounting to 40 per cent. for the year.

The Sandycroft Rubber Co., Limited, made net profits equal to \$10,470.37 (gold) and paid 20 per cent. in dividends.

The Consolidated Malay Rubber Estates, Limited, had a net profit of \$32,000, and paid 10 per cent. in dividends.

The Anglo-Malay Rubber Co., Limited, reported profits of £10,500 [\$53,378.53] and disbursed £18,888 in dividends, amounting to 18 per cent. on the paid up capital.

The Sekinger Rubber Co., Limited, reported profits of £13,670 and paid a dividend of 40 per cent.

PLANTING INTERESTS IN MEXICO.

The president of the Mexican Mutual Planters Co. (Chicago), Mr. George C. Sanborn, reports to the investors in the company a favorable condition of the rubber, coffee and cacao on their "La Junta" plantation, in Vera Cruz. The rubber area is to be brought this year up to 3300 acres. The older rubber, now at six years, embraces many trees of a size which in recent experiments has yielded 3 1/2 ounces of dry rubber at a single tapping.

The latest report of the Isthmus Plantation Association of Mexico (Milwaukee, Wisconsin) shows expenditures to November 30, 1906, of \$447,638.35 (gold). The amounts realized from "side crops" during six years, for the dividend fund, aggregated \$75,014.80. The number of rubber trees planted is 808,141, beginning with 4,081 in 1900. It is expected that 5,000 pounds of rubber will be gathered this season. There are 250,000 coffee trees, and the estimated product this year is 50,000 pounds.

The latest report to the shareholders of the Joliet Tropical Plantation Co. shows expenditures to February 28, 1907, of \$164,222.57. While awaiting the growth of their rubber (in Vera Cruz, Mexico) the company is devoting attention to grazing, among other things, as a source of current profit. There has been disbursed in three years \$10,804.28 in dividends.

The Tolosa Rubber Co., successor to the ill-fated Uchero Plantation Co., of Boston [see THE INDIA RUBBER WORLD, February 1, 1906, page 142], sends out a report showing a favorable condition of the rubber on their plantation in Oaxaca, Mexico, about 130,000 trees. The company reports ample funds up to date for

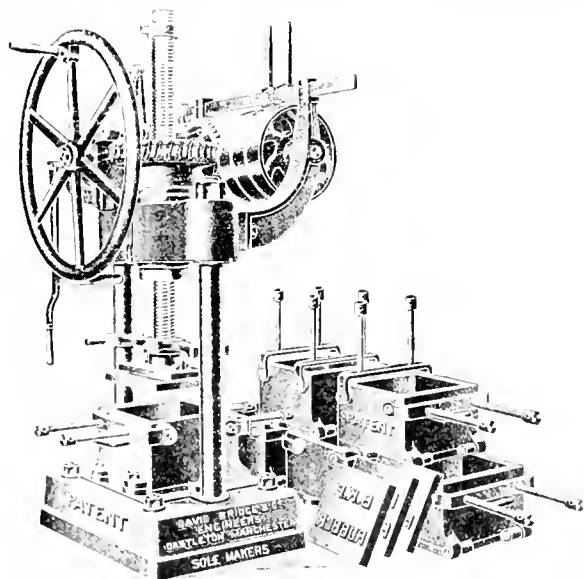
the care of the property, and it is intended to put a superintendent in charge of the property on January 1 next.

Pennsylvania Obispo Plantation Co., incorporated December 14, 1906, under the laws of New Jersey with \$1,200,000 capital authorized, has headquarters at Scottsdale, Pa. Their plantation, "Estancia," is located at Playa Vicente, state of Vera Cruz, Mexico. The company is composed of a number of substantial business men in the Pittsburgh district. A. S. Braznell is president, Will B. Jones vice-president, Joseph D. Houston treasurer, and George Frank Kelly secretary. The latter is secretary also of the Pittsburgh Obispo Plantation Co., formed four years ago. Among the directors of the new company is Mr. Maxwell Riddle, whose interest in Mexican rubber culture has been mentioned frequently in these pages.

BRIDGE'S "BLOCK" RUBBER PRESS.

An undoubted favor with which crude rubber in "block" form has been received by manufacturers has turned attention to the construction of devices for economically putting rubber into this shape. The latest machine for this purpose is illustrated herewith. It consists of a powerful screw fitted with a machine-cut worm wheel, driven by a steel cut worm by fast and loose pulleys. A reversing motion is arranged for the quick withdrawal of the platen, this being carried on two strong steel columns, bolted to the base. Detachable boxes are used, so that any number may be used with the same press. Each box is fitted with two strong wrought iron bridges, with four powerful screws.

After the crepe rubber has left the vacuum dryer it is pressed into the box, and when it is under pressure the bridges are brought to an upright position. The screws are brought down on



Bridge's "Block" Rubber Press.

The bridges and boxes are locked out, the rubber is pressed under pressure, and the main screw is run clear of the box. The latter is then removed from the press and placed in the vacuum dryer for a period of setting. The lid of the box, which is hinged, allows the block of rubber to be forced out by the four vertical screws.

The press is fitted with a hand motor, in case of the lack of steam power. From 2 to 3 h.p. is sufficient to operate the press turning out blocks 6x11 inches, and 4½ h.p. is required for a total weight of such a press, with one box, is about 1,000 pounds. A number of these presses are reported to have been supplied to the Mabira Forest (Uganda) Rubber Co., Limited, a company exploiting native rubber in East Africa. The patentees and sole makers are David Bridge & Co., Castleton, Manchester, England.

BELGIAN CAPITAL IN MEXICAN RUBBER.

The Antwerp company, Société Anonyme Santa Rosa, with a capital of 408,000 francs [= \$78,744], has been formed to succeed Cultuur Maatschappij Santa-Rosa (Mexico), of Amsterdam, now in liquidation. The new company acquires a coffee and tobacco plantation in the Mexican State of Oaxaca, on which are about 50,000 rubber trees (*Castilloa*), a considerable proportion of which are now 8 years old, and all reported to be in fine condition. Experimental tapping has been in progress of late. The company owns some 33,000 hectares [= 82,543 acres] of land, and their rubber is near the plantation of the Batavia Co., of Milwaukee, Wisconsin.

SHIPMENT OF RUBBER FROM TRINIDAD.

The island of Trinidad, one of the British West Indies, has now reached a stage in rubber production, says the latest *Bulletin* of the botanical department there, where shipments of 1,000 pounds at a time are made. Lots of *Castilloa* sheets have been sold at the rate of 48. 3d. and 38. 4d. per pound respectively from two estates, while scrap rubber on one estate has sold for 38. 3d. per pound [48. 3d. = \$1.03 1-3, gold].

THE OAXACA RUBBER CO.

The Oaxaca Rubber Co., formerly a corporation under the laws of New Jersey, was reincorporated in the latter part of February in Maine for the reason that the corporation taxes are lower in that state. The capital stock is \$1,250,000 in \$5 shares. The office of president is now vacant; Joseph T. Elliott is vice-president, William I. Overstreet secretary, and Caleb B. Leach (Middletown, Connecticut) treasurer. The office of the company at present is in Middletown. A recent circular to the shareholders states that there are on the company's estate in Mexico 265,000 rubber trees, and the sale of corn this year is expected to provide funds sufficient for the upkeep of the plantation during the year. There are yet in the treasury 40,000 shares of stock for sale as further funds are needed. This company originally was the Isthmus Rubber Co. The change of name was reported in THE INDIA RUBBER WORLD, October 1, 1905 (page 15).

YIELD OF PLANTED "CASTILLOA."

In an interesting series of letters in *The Mexican Investor*, headed "A Little Journey by a Rubber Planter," Mr. J. Herbert Foster, of Tulsa, recounts some results obtained from tapping planted *Castilloa* trees at Soconusco, in the state of Chiapas. Mr. F. A. Quimby, manager of the "Dona Maria" plantation, was found tapping, for the first time, six year old trees, 13,114 of which had yielded 1,126 pounds of dry rubber, an average of about 1.37 ounces. The largest six year old tree, 37 inches in girth, had given 5 ounces. Mr. Quimby expected that when all his trees had been tapped he would have 5,000 pounds of rubber, and he expected to tap them again after six months.

A neighboring planter, Mr. V. S. Smith, began tapping during Mr. Foster's visit, the first 60 trees yielding 17 pounds. Later he wrote to Mr. Foster that 3,600 six year old trees gave 360 pounds of rubber, an average of 1.0 ounces per tree.

Both the planters named "cream" their rubber, to remove the resinous content, though the weight is less than where the rubber is prepared by other methods. They both used a tapping knife patented in Mexico. It is a forged piece of sheet metal with a cutting edge bent to the shape of the letter U, and attached to a straight wooden handle. The operator draws the knife toward him as he works; the U projects an inch below the handle and takes a V-shaped chip out of the bark as it is dragged along. A guiding wheel in front of the blade regulates the depth of the cut.

RUBBER PLANTING IN THE CONGO.

The British foreign office, having undertaken an inquiry in regard to rubber planting in the Congo Free State, announces as the result that the plantations there now contain over 10,000,000 plants, nine-tenths of which are vines, and the remainder trees (*Funtumia elastica*). Formerly the systems of planting varied

with different districts, but since 1904 the law has required the planting of 666 vines per hectare [200 vines per acre], and from 800 to 1,000 trees per hectare. The oldest plants are now ten years old. There is no record of any plantation rubber produced as yet, owing to the vines being still too young to bleed.

TO PLANT RUBBER ON THE AMAZON.

The *Co. Agricole et Commerciale du Bas Amazon* has been organized in Paris (9, rue Saint-Etienne), with the object principally of engaging in the culture of rubber (*Hevea*) and also on the lower Amazon, and, incidentally, to conduct a general import and export trade in that region. The capital is 50,000 francs [£80,500], in 1,000 shares of 500 francs. There are also to be created 1,200 "founder's shares," of which 500 will be allotted *pro rata* to the shareholders and 700 to Paul Le Comte, a French engineer of 15 years' residence in Brazil, and through whose suggestion the new company has been organized, in consideration of certain services to be rendered by him to the company. Mons. Le Comte has presented to the *Societe de Geographie* of Paris an exhaustive study on the "Exploitation et Culture du Caoutchouc en Amazonie," to be published in their *Bulletin*, and in which he recommends the systematic production of *Hevea* rubber in Brazil on plantations.

RUBBER PLANTING IN HAITI

EXPERIMENTS which have been made for several years past in rubber culture in the Republic of Haiti promise favorable results. There was formed in Brussels on February 26, 1900, a company by the name *Les Plantations d'Haiti Societe Anonyme* with a capital of 300,000 francs [£57,000], for the purpose of promoting systematically various forms of agriculture in Haiti. A leading spirit in the enterprise is Fr^r. Herrmann, of Brussels, who is the head of an important mercantile house with colonial

connections. Being a pioneer enterprise in its field, the work of the company of necessity has been largely experimental, but it has related to a considerable variety of plants, including india-rubber, cacao, kola, vanilla and sugar cane. It is understood that as regards rubber, the company has been most successful with the *Castilloa elastica*, which is said to appear to be admirably suited for the soil and climate there. Besides this species, plantings have been made of *Hevea Brasiliensis*, *Clatonia elastica*, *Ficus castanea* and *Mimosa Glauca*. Natural latex has been employed exclusively, being both cheap and particularly effective. The location of the plantation is at Cap-Haitien, and is directed by Mr. A. E. Casse.

THE PASK-HOLLOWAY TAPPING KNIFE.

A rubber tapping tool, known as the Pask-Holloway knife, and patented in Ceylon by G. W. Pask and K. Holloway, of the Matara, is reported to have been well received by planters. It is described in the *Ceylon Observer* as a strong, simple, and easily worked head, one feature being that with the same handle the operation, as well as the subsequent paring operations, can be made. The double cutting edge permits right and left hand cutting to be done, and the paring may be changed from wide to very narrow. The steel head when worn out on one side may be easily reversed, and eventually a new headpiece put in. The cost is referred to as equal to \$0.14, American gold.

BRIEF MENTION

THE new customs tariff established in British North Borneo (*Official Gazette*, August 1, 1906) provides for an export tax on india-rubber other than cultivated of 10 per cent. *ad valorem*. Cultivated rubber is declared to be free of any export duty.

Samples of rubber from the forests leased by Messrs. Lepper and Pennington from the Natal government and shown at the recent South African Products Exhibition in London, are reported to have been very fine.

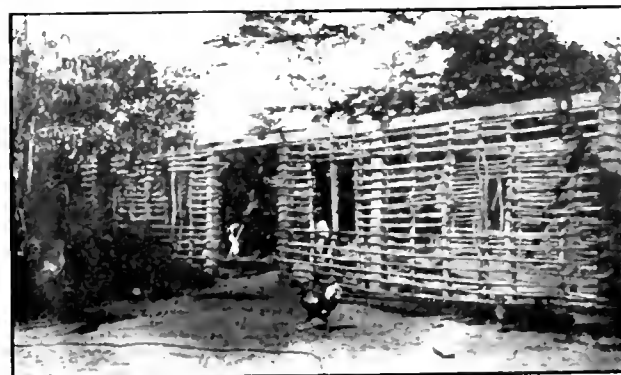
Ernest F. Van Dort, of the Technical College of Ceylon, has applied for a patent for an apparatus for testing the elasticity and tensile strength of crude india-rubber, something for which a prize was offered at the late Ceylon Rubber Exhibition, but without being competed for.

In September last the Milan chamber of commerce gave a number of special gold medals to the exhibition authorities to be awarded to the persons or bodies considered most deserving by the different nations. Four were assigned to that of the agricultural section, and it is understood that one of the medals has been awarded to Messrs. Perle & Co. of Singapore, for their enterprising experiment with the rubber trade. This medal was bestowed by the Hon. C. A. Pearson, of the law firm, and is the only one of the medals that have gone to the British empire. Singapore has won a gold medal of its share.

A number of *Hevea* and *Castilloa* vines, about 10 to 20 feet of *Hevea* rubber stumps.



"MANIHOI GAZDWH" IN HAWAII



FRAMEWORK OF M^r. HOUSE FOR LABORERS, RUBBER PLANTATION OF JAMES C. HARVEY, IN MEXICO

See also Plants Photographed 10 to 10 months, on the estate of The Rubber Co., Limited, on the island of Maui. See THE INDIA RUBBER WORLD, Nov. 27, 1906, p. 132, 133.

SOURCES OF CRUDE RUBBER.

RUBBER COMING DOWN THE NILE.

THE Nile may never rival the Amazon and Congo rivers as a medium for rubber transportation, but rubber is shipped down the Nile nowadays and is likely to come down that historic stream in larger quantities with the advance of time. This observation is suggested by the work of the Imperial Ethiopian Rubber Co., Limited, registered in London January 9, 1907, to acquire and develop an exclusive concession from Emperor Menelek, for 25 years, to collect rubber in Abyssinia. At a recent meeting of the company it was stated that about 20,000 pounds of rubber per month was being shipped by the company's agents, via Khartoum, down the Nile, with prospects for a steady increase, it having been demonstrated that Abyssinia is really rich in rubber.

The existence of rubber there was not known to the emperor until brought to his notice by Hassib Yillibi, to whom the concession above referred to was promptly granted. The organization of the Imperial Ethiopian Rubber Co. followed, with a capital of £150,000, and active work has since been in progress, with Mr. Yillibi as the company's manager in Abyssinia. The species yielding rubber are being studied by Mr. Bryce, a trained botanist. There are *Landolphia* vines in abundance and, it is reported, *Ficus* trees. The company are obliged to do a certain amount of planting and are experimenting with *Funtumia* *Sapium* and *Ficus* trees.

RUBBER EXPORTS FROM BOLIVIA.

The exports of rubber from Bolivia are larger than at any time in the past, if we exclude from consideration the Acre district, claimed formerly by Bolivia and now by Brazil. The table herewith gives the exports, by custom houses, for four years past, the Acre district not included later than 1902 (weights in pounds):

	1902.	1903.	1904.	1905.
[Via Manaos]				
El Acre, pounds	1,757,510	.....	.....	.....
[Via the Madeira]				
Villa Bella,	1,512,731	1,493,220	1,829,557	2,230,995
[Via the Pacific]				
La Paz,	931,288	535,623	848,707	737,726
Peleequeo, .....	.....	102,465	.....	119,730
Oruro,	42,383	542,353	299,394	168,606
[Through Argentina]				
Puerto Suarez,	238,577	229,796	493,381	459,533
Tarija,	4,006	2,816	15,382	10,228
Total,	4,186,585	2,996,274	3,450,481	3,729,908

The exports of Bolivian rubber through the port of Mollendo, embraced in the above figures, amounted in 1905 to 894,251 pounds. In 1903 the amount was 601,957 pounds.

THE NATIVE RUBBER OF JAMAICA.

In an article in the *Journal of the Jamaica Agricultural Society* [Vol. XI., page 9] on *Forsteronia floribunda* as a rubber producer, the editor writes: "We have known and watched this plant for a good many years and have often thought that while we were paying so much attention to *Castilloa* and *Hevea*, *Ceara* and *Funtumia*, our own native rubber offered as good prospects in certain situations as those better known rubbers." This climber is known locally as "milk withe" or "rubber withe," the stems of which are generally as thick as a man's wrist, but when old the stems may be 6 inches or more in diameter for a distance of 20 to 30 feet from the ground, then branching into several stems and growing to the tops of trees over 100 feet in height. Such stems, on being cut slightly with a machete, are said to exude latex in great profusion.

LIBERIAN RUBBER MONOPOLY.

The rubber monopoly in Liberia has been so severely criticized in Europe that The Liberian Rubber Corporation, Limited, holder of the concession for collecting and exporting rubber for 26

years, have given up the monopoly. As compensation for what was paid to the Liberian government for it, and what has been expended by the company in connection with it, the government gives the company a share in the export revenue derived from rubber. The new arrangement has been brought about by Sir Harry H. Johnston, a director in the rubber company. [See *The India Rubber World*, April 1, 1904—page 233; January 1, 1905—page 124; February 1, 1906—pages 146-147.]

AN INQUIRY FROM COLOMBIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I wish to know if you are able to put me in communication with any person that may be interested in the extraction of rubber from the milky juice that is obtained from several kinds of trees that we have in the Atrato region. I presume that if I could get a chemical process for extracting this rubber we might have here an industry as interesting as that of preparing guayule rubber in Mexico.

GONZALO ZUNIGA.

Cartagena, Colombia, March 1, 1907.

BRIEF MENTION.

A DECREE imposing an export duty on crude india rubber became effective in Madagascar on March 15, 1907, the rate being 40 centimes per kilogram [\approx 3½ cents per pound].

The director of forestry of the Philippine Islands reports that government dues were collected on 40,650 kilograms [\approx 89,443 pounds] of gutta-percha during the year ended June 30, 1906. The exports of gutta-percha during the calendar year 1905 amounted to 59,800 pounds, of which none went to the United States. The declared value was \$4,782, or an average of 64 cents per pound. Rubber exports amounted to 281 pounds, valued at \$63.

NEW TRADE PUBLICATIONS.

DAVID MOSELEY & SONS, LIMITED (Manchester, England), in their Price List of Motor Tires for 1907, describe their leading styles of tires, and also rims, tubes, and non skid covers, and the Moseley tire gage. [9" \times 5½", 70 pages.]

THE GARLOCK PACKING CO. (Palmyra, New York) have begun the publication, as a means of keeping the trade informed periodically about the company's packings, of a breezy little paper called *The Garlock Record*. It is issued from their Philadelphia office. [11½" \times 9", 16 pages.]

INDIANA RUBBER AND INSULATED WIRE CO. (Jonesboro, Indiana) issue a catalogue of their "Paramite" and "Peerless" rubber covered wires and cables, together with some useful data in the shape of specifications and measurements of wires and their capacity. [4½" \times 7½", 48 pages.]

PENNSYLVANIA RUBBER CO. (Jeannette, Pa.) send out an attractive book of views, in color, of specimens of their Interlocking Rubber Tiling for various purposes. [7¼" \times 9¼", 26 pages.]

JENKINS BROTHERS (New York) in their 1907 catalogue and price list of Valves, Packing, and Discs devote considerable space to the Jenkins Brothers Rubber Specialties, to the list of which they have of late made several additions. [6" \times 9", 128 pages.]

GEORGE F. LEEBERRY, JR. (Elizabeth, New Jersey) issues a booklet on Rubber Substitutes, golden and crimson substitutes of antimony, and their application in the manufacture of rubber goods. In addition to descriptions of the various ingredients named, suggestions are offered regarding the compounds—as for mechanical goods, sundries, and hard rubber—for which each is more especially suited. [6½" \times 8¼", 16 pages.]

ALSO RECEIVED.

THE Faultless Rubber Co., Ashland, Ohio.—Cloth Lined Rubber Goods. 4 pages.

Allen Manufacturing Co., Toledo, Ohio.—Science and the Bath, Allen Bath System. 16 pages.

Western Electric Co., Chicago.—Hawthorne Works, for the Manufacture of Power Apparatus. 24 pages.

THE EDITOR'S BOOK TABLE.

LE CAOUTCHOUC DANS L'AFRIQUE OCCIDENTALE FRANÇAISE. Par Yves Henry, Inspecteur d'Agriculture. Paris: Armand Chaudière, 1907. [Paper. 8vo. Pp. 96+6 plates. 10 cent. and 10 cent. Price, 9 francs.]

THIS is a semi-official work, prepared by Mons. Henry, inspector of agriculture for French West Africa, primarily as an exhibit at the French Colonial Exposition at Marseilles last autumn. The first part of the book details the history of the crude rubber trade in the five colonies under the administration of the governor-general of French West Africa, with statistics of production, prices, etc., year by year. Not only this, but the rubber is followed to its destination, and the selling system at Liverpool, Bordeaux, Antwerp, and other markets described. The second part of the work is devoted to the colonial regulations of February 1, 1905. These relate to (1) repression of fraud in the preparation of rubber, (2) conservation of native rubber plants, (3) the planting of rubber, and (4) the education of the natives in methods of tapping trees and preparing the rubber for market. In the concluding chapter it is pointed out that satisfactory results have been attained in each of these respects. The rubber training schools are of particular interest, and their introduction into other French colonies was recommended by the Marseilles Colonial Congress. There are a number of good illustrations of trading stations and of rubber yielding species.

QUESTION CONGOAISE. LA COMPAGNIE DU KASAI A SES Actionnaires. Réponse à ses Detracteurs. Bruxelles, 1906. [Paper. 8vo. Pp. 100+2 maps.]

THIS statement, by the directors of an important rubber trading company to its shareholders, in response to charges affecting its treatment of the natives within its sphere of influence, forms a most interesting contribution to the subject of conditions on the Congo. As for the attacks upon the company, they have been of the general character of those against the Congo administration, and not against the "Kasai trust" in particular. The reply is, of course, simple assertion on the part of one of the attacked parties, and discussion of the details involved does not belong to the scope of this journal. But the facts regarding the objects, plan, and working of the Kasai company, formed December 24, 1901, by the merger of fourteen *concessionnaire* companies trading in the Kasai basin, is of interest, since the statements are official and more comprehensive than anything published hitherto regarding any Congo trading concern.

The vast territory controlled embraces the upper Kasai and its tributaries, extending down that stream almost to the concession of the American Congo Co. Its headquarters are at Dima, near the mouth of the river. The capital is 1,005,000 francs [= \$193,065], in 4020 shares of 250 francs, in connection with which exist an equal number of shares "without designation of value," of the nature of "common stock." Half of all the shares are held by the Congo Free State.

The book before us points out that the Kasai company has steadily pushed forward the development of its territory, increasing its production, and tending to better the condition of the natives. There has been a constant increase in the number of trading posts, an improvement in the quality of rubber, and better business management, all of which compares favorably with the conditions existing when fourteen companies formerly worked independently. We must note the interest taken by the company in forming plantations of rubber, in addition to the planting required by law. The net profits for the four years for which accounts have been completed have been:

In 1902.....	1,210,700.23 francs [= \$233,660.26]
In 1903.....	3,197,393.01 francs [= 627,990.85]
In 1904.....	5,334,707.06 francs [= 1,020,615.82]
In 1905.....	7,543,084.08 francs [= 1,455,885.40]

It will thus be seen that the net profits in one year were more than seven times the amount of capital stated. After allowing 15 per cent on the capital shares there will be available, for the past

year, 1500 francs per share (that is, 1500 francs which cost nothing), and a 100 per cent. *Surplus*. Exchanges of value for these shares was 10,000 francs in 1902, 800,000 francs in 1903, 1,200,000 francs in 1904, and 1,750,000 francs in 1905. A group of 8 of these shares will be easily satisfied with the company's behavior.

The rubber arrivals at Antwerp created a glut, compared with The India Rubber World have been 85,000 tons in 1900, 90,000 in 1901, 120,000 tons in 1905, and 175,000 tons in 1906. A collection of excellent pictures in this book illustrates the work of gathering and bringing in this rubber by the Kasai natives.

THE FAR EASTERN TROPICS. STUDIES IN THE ADMINISTRATION of Tropical Dependencies. By J. E. Ireland. London: Houghton, Mifflin & Co. (Cloth. 8vo. Pp. 120. Price, 10s.)

THE question of dealing with some tropical dependencies under conditions of very great power to do so, and to govern them, is a problem more difficult to deal with than that of temperate zones. It is set aside lightly, since, if there were a state to control the existence of these colonies there must needs be some close between the torrid and temperate zones; it seems inevitable that the colonies be controlled by the people of the colder climates, and this involves ultimate political control. Not that Mr. Ireland propounds any such theory, but it is suggested by the reading of his book, which is a careful study by a trained observer who has spent much time in the regions whose people and institutions he describes. If we were to point out a practical illustration of the importance to Western civilization of the problems an author has studied it might be mentioned that India-rubber, which has become one of the world's necessities, is largely produced in countries which are not self governing. In order to bring about such closer relations with the tropics as will facilitate the obtaining of rubber it is necessary that there should be, in many cases, better methods of colonial administration. This calls for a better mutual understanding between the "home" powers and the colonies, and to this end Mr. Ireland's work is a notable contribution, so far as readers at "home" are concerned. All the Far Eastern countries treated by him are producers of rubber, though of course he does not deal in any way with the rubber question. He only helps us to understand those parts of the world whence an important commodity comes.

ROYAL BOTANIC GARDENS, KEW. BULLETIN OF MISCELLANEOUS INFORMATION. Additional Series, VII. Selected Papers from the Kew Bulletin. III. Rubber. London: His Majesty's Stationery Office, 1906. [Boards. 8vo. Pp. iv+187. Price, 1 shilling 6 pence.]

THE staff at Kew has rendered the rubber interest a distinct service in the scientific study of rubber yielding species. It might justly claim credit, for example, for the introduction of *Hevea* rubber into the Far East, and for otherwise stimulating the rubber culture. For nearly a score of years its *Bulletin* has contained articles of value relating to rubber, and especially the botany of rubber, an interesting selection of which appears in this volume.

RUBBER PLANTING IN THE REPUBLIC OF PANAMA. BY J. E. Sanchez. Panama: Chevalier, Andrews & Co. [Paper. 120. Pp. vi+36+2 plates.]

THE author of this brochure mentions his experience in connection with a considerable plantation of rubber owned by a mining company on the isthmus of Darien, where his observations convinced him of the possibilities of this new planting interest. He gives some estimates of planting cost and profits, with a number of illustrations from photographs. The booklet is printed in English and Spanish.

MEXICO'S TREASURE HOUSE GUANAJUATO. AN Illustrated and Descriptive Account of the Mines and Their Operations in 1906. By Percy J. Martin, F. R. G. S. New York: The Clarendon Press, 1906. [Cloth. 8vo. Pp. 210+vi+maps and plates.]

THIS work, though devoted to describing a gold and silver mining region of marvelous richness, gives the reader incidentally no little information regarding Mexico in general, and in particular to a region adjacent to the States which lately have come into prominence as producers of guayule rubber. The book is capably written, and the publishers have brought it out in sumptuous form.

New Rubber Goods in the Market.

NEW "DUPLEX" FOLDABLES.

The thing illustrated on this page is 10 inches in length, 5 inches in width, and $7\frac{1}{2}$ inches in depth when open; folded, it is $7\frac{1}{2}$ inches in depth, a reduction that is quite valuable considering the burden of a day's sport. It is a waterproofed creek, to take the place of the willow. It can be carried in the tackle case and so be out of the way when not in use. Even when filled with water, it is not so clumsy as a bucket; besides,



it can be kept in a tackle case and much more portable. It is a matter of a moment to unfold and clean it, and they are kept always from odor. Brought of metal, they are inserted in the side and bottom, and the whole is secured by these and all other parts are of strong steel and rubber proof. All have shoulder straps and the cover fastens with straps and flat pull down hooks. They are quite as good for small game as for large. The "Duplex," as they are called, have been termed "cool, practical, portable, valuable, waterproof and water-proof."

The second illustration relates to a collapsible funnel for use by the automobilist. It comes in a convenient size, $7\frac{1}{2}$ inches in diameter and 5 inches in depth. It folds into $7\frac{1}{2}$ inches by $3\frac{1}{2}$ inches. The funnel is made of a material with a special material that is proof against alcohol, gasoline, kerosene, or naphtha, and is equally good for water. Where a tank in automobile is set over the engine, below the engine, a small piece of rubber pipe should be attached to the desired length and attached to the funnel nozzle. This will draw up the water from the gasoline and kerosene tank, and draw it from the gasoline tank, and draw it from the gasoline tank. [Duplex Folding Pail Co., No. 420 Broadway, New York.]

VICTOR FELT TREAD INNER TUBE.

A good deal of interest is being shown in the Victor Felt Tread Inner Tube, a new and improved rubber partition and the

space between the tread surface and the partition is filled with felt. The Victor Felt Tread Inner Tube, it is said, has solved the great question of the tire. It has been worrying every automobile owner for many years. The Victor Felt Tread Inner Tube is a guarantee with each tube. The tube is referred to as being any automobile, so that no change are needed in placing it. It will be seen that with this the need for carry-

ing extra inner tubes or casing is removed. [The Victor Auto Tire Repair Co., No. 220 Madison street, Passaic, New Jersey.]

THE TRAVER BLOWOUT PATCH.

The Traver Patent Blowout Patch bids for popularity in that it does not require cement, straps, lacing, or bolts, as it locks on the rim with the shoe and cannot creep. This makes the matter of applying it an easy procedure, unattended by the dread of long, tedious, and even arduous work involved in many methods of repairing. It also has the value of permanence as it fits inside the shoe and will keep in position as long as the shoe lasts.

A run out which seems almost to defy road repairing gives way to the healing of the Traver quite as readily as the blowout yields to its efficacy. A shoe that has been worn to the danger point is made safe and serviceable if the patch is used before a blowout does occur, as the patch builds up the weak spots, relieves the shoe from pressure of the inner tube, and saves the inner tube when the shoe does give out. The Traver patch is made of Sea Island cotton, covered with rubber vulcanized by the slow live steam process and made flexible on the sides and ends so as not to chafe the inner tube. [Traver Blowout Patch Co., No. 1265 Broadway, New York.]



TRAVER BLOWOUT PATCH.

PNEUMATIC CUSHION RUBBER HEEL.

The illustration shows the principle on which is constructed the Pneumatic Cushion Rubber Heel, for "Juliets," "Oxfords" and old ladies' "Balmorals." There is a suction chamber and a



PNEUMATIC CUSHION RUBBER HEEL.

diaphragm, which prevents slipping, and from which snow and dirt are expelled by the compressed air chamber. Their lightness of weight makes them especially adapted for use on women's shoes, and they have a large sale on this account for house shoes. They are made in black and will not bloom. [Pneumatic Cushion Rubber Heel Co., No. 19 Lincoln street, Boston.]

SANITARY WRAPPER TABLE CLOTH.

No greater advance along any line has been made in the past few decades than that shown in improved methods of sanitation in municipalities, in home life, in manufactories and in every department of manufacture where improvement conduces to the health of the consumer. Among the later simple yet significant advances is that illustrated by the manufacture of cigar-makers' sanitary wrapper table cloth. This is made in two grades



SANITARY WRAPPER TABLE CLOTH.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED APRIL 2, 1907.

- N** 848,448. Tire for vehicles. [A rim with transverse slots, the tire having a rubber base harder than the tread; projections from the base of the tire fit into slots in the rim.] J. E. Hopkinson, West Drayton, England.
- 848,466. Storm front for vehicles. H. D. Pursell, Washington Court House, Ohio.
- 848,575. Cushion sole [for shoes, with waterproof lining]. H. A. Roberts, assignor to one half to F. J. Nelson, both of Hornellsville, N. Y.
- 848,578. Hose. W. W. Spadone, New York city, assignor to The Gutta Percha and Rubber Mfg. Co.
- 848,735. Interchangeable heel for boots and shoes. R. Barnes, Fitzroy, Victoria.
- 848,875. Process of making rubber footwear. [Uncoated pieces of textile material are united to form a lining for the shoe, to which an outer covering of pieces of rubber compound is applied. The two surfaces are subjected to pressure, the compound being vulcanized and forced into the pores of the lining.] M. C. Clark, assignor to Marvel Rubber Co., Providence, R. I.
- 848,877. Wading boot. O. F. Glidden, Grand Rapids, Michigan.
- 848,878. Brush [with elastic teeth]. O. Crittenden, Akron, Ohio.
- 848,879. Spray nozzle. A. B. Hull, assignor to Friend Mfg. Co., both of Westport, N. Y.
- 848,881. Pneumatic tire. L. N. Cates, St. Louis.
- 848,882. Vehicle wheel [with resilient tire formed of a canvas tube filled with rubbering material and provided with a rubber tread]. C. A. Cates, Hamilton, Ontario.
- 848,883. Pressure pump. A. Gendry and B. Gilbert, Los Banos, Cal.

ISSUED APRIL 2, 1907.

- 848,884. Electrically heated hot water bottle. H. W. Christian, Toledo, Ohio.
- 848,884. Vehicle wheel [with resilient (spring) spokes, and tread surface of rubber]. A. A. Daugherty, New York city.
- 848,885. Pneumatic tire protector. E. I. Tennant, Springfield, Ohio.
- 848,886. Process of making playing balls. F. H. Richards, Hartford, Conn.
- 848,887. Elastic tire. [Springs are arranged within the periphery of a solid rubber tread surface.] Samuel and Rose Basch, London, England.
- 848,888. Golf ball marker. J. C. Cory, New York city.
- 848,889. Tire for vehicles. [Tread portion in combination with metal ferrules and a plug or filling in the ferrules.] Wilmer Dunbar, Akron, Ohio.
- 848,890. Antislipping device for automobiles. E. Ny and A. Gruesbeck, Charlotte, Mich.
- 848,891. Packing. [For pistons; comprising a ring having a diagonal split and provided with a seat integral on the inside of the ring and extending in the direction of the split at the latter, a spreader for triangular in cross section and extending with its sides into the split, and a spring held on the seat and engaging the base of the spreader bar to force the latter outward.] S. Holmes, New York city.
- 848,892. Process for manufacturing elastic fillings for tires. Fritz Phormer, Dresden, Germany.

Trade Marks.

- 11,000. The Miller Mfg. Co., Akron, Ohio. A leaf on which is the word *Defective*. For stainless rubber gloves and mittens.
- 16,440. John T. Noid, St. Louis. Monogram *J. T. N.* For gutta-percha and caoutchouc, rubber dam clamps, dental rubber, etc.
- 25,722. The D. H. Dixon Crucible Co., Jersey City, N. J. The word *Dixon's* in circles.
- 25,875. The Carlock Packing Co., Palmyra, N. Y. The words *Get Wise*, on either side of the picture of an owl. For sheet packing.
- 25,876. The Newcomb Fabric Corporation, Orange, Conn. For elastic webbing.
- 25,877. The Fish Rubber Co., Chappin Falls, Mass. The words *New De* on either side of a picture of a fish.
- 25,878. The Fish Rubber Co., Boston. The word *Salisbury*. For rubber boots and shoes.

ISSUED APRIL 16, 1907.

- 848,893. Process of making rubber boots and shoes. R. C. Beyer, Worcester, Mass.
- 848,894. Resilient traveling means for rubber heels for shoes and bowed sole shoes. A. B. Heimblach, Dublin, Minn.
- 848,895. Process of making playing balls. F. H. Richards, Hartford, Conn.
- 848,896. Rubber. Jerome Walker, New York city.
- 848,897. Process of making rubber boots and shoes. R. C. Beyer, Worcester, Mass.

- 850,485. Apparatus for producing rubber strips. J. E. Ott, Orange, N. J., assignor to Edison Storage Battery Co., West Orange, N. J.
- 850,488. Protector for rubber tires. J. A. Posey, assignor of one third each to W. W. Major and H. H. Posey, all of Midlothian, Texas.
- 850,603. Slipper for soaking the feet. [The combination of an elastic water-proof body large enough to provide a space about the foot, with an elastic ankle portion provided with ribs adapted to closely contact with the ankle.] G. Reiter, Pleasant Ridge, Ohio.
- 850,706. Means for inflating pneumatic tires. A. A. Withers, Balaclava, Victoria.
- 850,747. Manufacture and application of rubber tires to wheel rims. L. W. Giles, New Bedford, and C. W. Tobey, Fairhaven, Mass.
- 850,748. Rubber tire fastener. *Same*.

Trade Marks.

- 21,087. Continental Caoutchouc- und Guttapercha Compagnie, Hanover, Germany. The words *Continental Caoutchouc- und Guttapercha Compagnie*. For india rubber tires, solid and pneumatic, and india-rubber cover bandages, plasters, patches, and repair sheets for tires.
- 25,737. Hewitt Rubber Co., Buffalo, N. Y. Picture of a section of hose. For air brake hose.
- 26,007. Godyear Rubber Co., New York city. The word *Badger*. For rubber boots and shoes.

ISSUED APRIL 23, 1907.

- 850,000. Nozzle for pneumatic carpet cleaning apparatus. R. E. Discrens, Bradford, Pa.
- 850,020. Pneumatic tire. G. L. McQuigg, Flint, Mich.
- 851,212. India rubber stopper for bottles. [Illustrated elsewhere in this Journal.] C. J. Bailey, Boston.
- 851,243. Horseshoe [with rubber pad]. C. Manley, New York city.
- 851,256. Eraser shield. H. L. Seldon, Syracuse, N. Y.
- 851,265. Atomizer. J. Waldman, New York city.
- 851,481. Air ship. [Involves gas bag.] T. S. Baldwin, San Francisco.
- 851,530. Vaginal douche. E. J. Lampert, Cape Town, Cape Colony.
- 851,550. Tooth brush guard. J. C. Nevius, assignor of one half to Standard Rubber Co., both of Trenton, N. J.
- 851,562. Spraying nozzle. J. H. Ruff, Hollywood, Cal.
- 851,585. Resilient tire for motor car and similar wheels. C. Burnett, Durham, England.
- 851,603. Hose nozzle. J. A. Long, Portland, Oregon.

Trade Marks.

- 5,153. American Hard Rubber Co., New York city. The word *Samsolm*. For electrical insulating material.
- 17,025. Wm. H. Walker & Co., Buffalo, N. Y. The head of a buffalo in a diamond, about which are the words *Supreme Quality Buffalo Brand*. For rubber boots and shoes.
- 23,048. Alfred B. Jenkins, New York city and Elizabeth, N. J. The word *Jenkins* in a single diamond-shaped outline, underneath which are the words *Jenkins Bros.* in facsimile. For rubber packing.
- 25,727. Henry B. Cabot and Helen N. Cabot, Boston, executors of Samuel Cabot. The word *Cabot's* in semi-circular arrangement. For lamp-black, wood and shingle stains, etc.

ISSUED APRIL 30, 1907.

- 851,653. Hose clamp. H. E. Crandall, Salamanca, N. Y.
- 851,680. Motor driven vehicle [with reserve rim supporting devices]. A. I. McMurtry, New York city.
- 851,740. Life belt. [Inflatable.] A. Gareis and Emily Gareis, Vienna, Austria.
- 851,747. Process of drying electric cables. W. E. Hale, Mexico, Mexico, assignor to Western Electric Co., Chicago.
- 851,781. Manufacture of dust caps for tire valves and the like. M. C. Schweinert, West Hoboken, N. J., and H. P. Kraft, New York city.
- 851,782. Toy [with compressible bulb]. J. Soss, New York city.
- 851,847. Antiskid device. J. M. M. Blanchard, New York city.
- 851,890. Vehicle tire [with leather cover and stradded tread]. D. R. and O. D. Salisbury, D. R. Salisbury for himself and as guardian for O. D. Salisbury, assignor to Salisbury Tire Co., all of Owosso, Mich.
- 851,906. Hose clamp. L. Palmer and A. L. Taylor, Harrisburg, Pa.
- 852,002. Elastic tire for wheels. W. R. Smith, assignor of one half to H. H. Hewitt, both of Buffalo, N. Y.
- 852,110. Vaginal syringe. D. O. Eskate, Chicago.
- 852,112. Tire repair and protective device. C. D. Gilman, Oakland, Cal.
- 852,130. Process of making rubber articles. [Relates particularly to the formation of vehicle tires, by placing hollow bodies of yielding material, each containing a gas-producing agent, into an unvulcanized rubber tire or cover, and then subjecting the whole to heat, so as to vulcanize the cover and expand the gas-producing agent in said bodies.] Frank A. Magowan, New York city.
- 852,170. Pressure regulator. J. E. Whitney, Melrose, Mass.

United States Rubber Co.'s Annual.

THE fifteenth annual meeting of stockholders of the United States Rubber Co., incorporated under the laws of New Jersey, was held at the registered office of the company in that state, at New Brunswick, on May 21, 1907. The operations of the company during the last business year and the condition at the close of the year, are indicated in the report of the officers, as read and approved, and which are printed here.

PRESIDENT'S ANNUAL REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Your president has now served the company for the past six years. A few comparisons between the condition of the company in 1901 and now will be of interest.

The company was then paying no dividends upon any of its stocks; it is now paying full dividends upon its preferred stocks. The company's net sales for the previous year were \$208,853,633.94; its net sales for the year ending March 31, 1907, exclusive of the Rubber Goods Manufacturing Co., were \$39,713,730.00, and with the sales of the latter company of \$19,737,120.81, were \$59,452,851.47. The net profits of the company for the year ending March 31, 1902, were \$119,495.00, and for the year ending March 31, 1907, were \$4,500,382.72, with but \$689,308.32 of the Rubber Goods company's profits of \$2,004,484.20 included.

The surplus of the company, which was then nominal, is now \$6,120,706.44.

The report of the treasurer which follows gives in detail the result of the operations of the United States Rubber Co. and its subsidiary companies for the last fiscal year, and their condition at the close of the year.

The volume of business and the net profits are the most satisfactory of any year in the history of the company, and when considered in connection with the operations of the Rubber Goods Manufacturing Co., the showing is still further improved.

The net profits of the Rubber Goods Manufacturing Co. for the year 1905 were \$1,358,485.20, while for the year 1906 the profits were \$2,004,484.20. Of this profit there is but \$689,308.32 included in the report of the treasurer of the United States Rubber Co., appended hereto. The volume of business done by the Rubber Goods company also increased \$2,074,697.81 over the previous year.

The extensive manufacturing plants belonging to the company have been maintained in the best condition, and many improvements made during the year, the cost of which has been charged to operating expenses.

To accommodate the increased business of the company some new construction has been found necessary, and at certain of our factories new buildings are now in course of erection, among which is a large wire-insulating plant at the National factory at Bristol, Rhode Island.

The United States Rubber Co. and the Rubber Goods Manufacturing Co. have further united their operations in purchasing, selling and manufacturing, to the great benefit of both companies. The executive offices of the Rubber Goods company in New York have been moved to the same building (No. 42 Broadway) as those of the United States Rubber Co., and between the officers and directors of the two companies the most complete harmony and cooperation exist.

Practically the whole of the common stock of the Rubber Goods Manufacturing Co. has now been exchanged for the second preferred stock of the United States Rubber Co. There is about \$3,000,000 of the preferred stock of the Rubber Goods company still unexchanged, as to which your directors have thought it as well to take no action, at least for the present.

Great advance has been made during the year in the development of our facilities for providing through the General Rubber

Co. for our very large output of tires, rubber and in addition to houses previously established in London and London during the year those of William S. Barrett & Co., Limited, London and Liverpool, through which, by means of our representatives in the principal crude rubber producing countries, our Para and Managoes houses now draw upon the London banks in payment for certain of our rubber stocks, thus saving bankers' commissions heretofore paid. We have also further developed our facilities whereby we are now able to obtain procuring a part of our supply of crude rubber from the General Rubber Co. has added a selling department to its business during the year.

A suggested consolidation with the Continental Rubber Co. was deemed by your directors to be inadvisable, but the development of the so-called mechanical process of producing crude rubber through the grinding up of shreds produced the gum, which is done extensively by the Continental Rubber Co., but that company and the General Rubber Co. have now agreed upon the terms of an arrangement which insures complete harmony and cooperation hereafter between the United States Rubber Co. and the Continental Rubber Co. and between these connected with both companies.

There have been transactions of the company of importance to stockholders in which your president and some of the directors have participated.

Owing to the generally severe winter just passed, there is every indication of a largely increased business in rubber footwear the coming year. The market is bare of goods and our unfilled orders are 60 per cent greater than they were at this time last year. In the miscellaneous lines of rubber goods equally favorable conditions exist, and there is every promise that the year to come will prove to be the most prosperous in the history of the company.

The record books of the directors and of the executive committee will as usual be open for inspection by stockholders at and before the annual meeting, this report as last year being sent out in advance of the meeting. Respectfully submitted,

SAMUEL B. COULTER, President.

New Brunswick, New Jersey, May 21, 1907.

TREASURER'S REPORT.

THE UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1907.

[Not including Assets or Liabilities of the Rubber Goods Manufacturing Co. or of its subsidiary companies.]

ASSETS.

Property and plants (including shares of R. G. M. Co.)	\$74,475,712.80
Inventories, Mfd goods and materials	\$18,404,727.75
Cash	2,961,401.27
Bills and loans receivable	3,681,129.19
Accounts receivable	8,687,631.17
Securities owned	7,317,759.38
Miscellaneous assets	8,509,919.36
Total assets	\$115,468,330.12

LIABILITIES.

Capital stock, First preferred	\$30,250,000.00
Capital stock, Second preferred	6,848,000.00
Capital stock, Common	25,000,000.00
Boston Rubber Shoe Co., Debentures	1,800,000.00
United States Rubber Co., Funding notes	8,000,000.00
Fixed surpluses (Subsidiary companies)	8,134,849.37

Loans and note payable	\$6,821,077.55	
Merchandise accounts payable	737,384.91	
Due General Rubber Co.	7,200,441.07	14,827,903.53
Deferred liabilities		504,281.78
Reserve for depreciation of securities		1,000,000.00
Reserve for dividends		872,989.00
Surplus		6,126,706.44
Total liabilities		\$415,408,330.12

CONSOLIDATED INCOME STATEMENT FOR YEAR ENDING MARCH 31, 1907

Gross sales, Boots and shoes and miscellaneous		\$60,568,852.27
Net sales, Boots and shoes and miscellaneous		\$39,715,730.66
Cost of goods sold		33,125,921.99
Manufacturing profits		\$6,589,808.70
Freight, taxes, insurance, general and selling expenses		1,931,746.16
Operating profits		\$4,658,062.54
Rubber Goods Mfg Co., Dividends, as adjusted	\$80,308.32	
Other income	872,031.85	1,561,340.17
Total income		\$6,219,402.71
Less:		
Interest and commission on funding notes and borrowed money	\$1,228,954.28	
Interest on Boston Rubber Shoe Co. debentures	240,000.00	
Interest allowed customers for prepayments	93,532.19	1,562,486.47
Net income to surplus		\$4,656,916.24
Deductions for bad debts, etc.		66,533.52
Net profits		\$4,590,382.72
Dividends		3,485,950.00
Surplus for period		\$1,104,420.72
Surplus April 1, 1906		5,022,279.72
Surplus March 31, 1907		\$6,126,706.44

JOHN J. WATSON, Jr., Treasurer.

THE ANNUAL ELECTION.

The board of directors, nineteen members, was reelected. The list is as follows, together with the number of terms for which each member of the board has been chosen:

- Walter S. Ballou, Providence, Rhode Island. [Fifth term.]
- Elias C. Benedict, No. 80 Broadway, New York. [Sixth term.]
- Anthony N. Brady, No. 54 Wall street, New York. [Fourth term.]
- Samuel P. Colt, Bristol, Rhode Island. [Sixteenth term.]
- Harry E. Converse, Boston, Massachusetts. [Tenth term.]
- Charles H. Dale, No. 16 Warren street, New York. [Second term.]
- James B. Ford, No. 42 Broadway, New York. [Sixteenth term.]
- J. Howard Ford, No. 42 Broadway, New York. [Sixteenth term.]
- Frank S. Hastings, No. 80 Broadway, New York. [Third term.]
- Francis L. Hine, No. 2 Wall street, New York. [Fifth term.]
- Henry L. Hotchkiss, New Haven, Connecticut. [Sixteenth term.]
- Arthur L. Kelle, Providence, Rhode Island. [Second term.]
- Lester Leland, Boston, Massachusetts. [Ninth term.]
- Homer E. Sawyer, No. 42 Broadway, New York. [Second term.]
- Frederick M. Shepard, No. 787 Broadway, New York. [Sixteenth term.]
- Francis Lynde Stetson, No. 15 Broad street, New York. [Sixth term.]
- William H. Truesdale, No. 26 Exchange place, New York. [Third term.]
- John D. Vermeule, No. 503 Broadway, New York. [Eleventh term.]
- John J. Watson, Jr., No. 42 Broadway, New York. [Third term.]

The newly elected board met in New York on May 24 and after organizing reelected the following officers and executive committee:

President—SAMUEL P. COLT.
First Vice President—JAMES B. FORD.
Second Vice President—LESTER LELAND.
General Manager—HOMER E. SAWYER.
Treasurer—JOHN J. WATSON, JR.
Assistant Treasurer—W. G. PARSONS.
Secretary—SAMUEL NORRIS.
Assistant Secretary—JOHN D. CARBERRY.

The executive committee consists of Samuel P. Colt, James B. Ford, Lester Leland, E. C. Benedict, Walter S. Ballou and Anthony N. Brady.

THE "CONTINENTAL" AND ALLIED COMPANIES.

The reference in President Colt's report to negotiations with the Continental Rubber Co. was awaited with considerable interest, in view of various statements that have appeared in the press, though the report proves not to be very definite. In last month's INDIA RUBBER WORLD (page 256) negotiations were referred to between the United States Rubber Co. and the Intercontinental Rubber Co., with an intimation that no decision had been reached. The record of the last named company and of its subsidiary companies to date is as follows:

Intercontinental Rubber Co., incorporated New Jersey December 6, 1906; authorized capital, \$40,000,000—preferred, \$10,000,000; common, \$30,000,000. Registered office: No. 15 Exchange place, Jersey City, N. J.

Continental Rubber Co. of America, incorporated New Jersey January 6, 1906; authorized capital, \$30,000,000. Registered office: No. 15 Exchange place, Jersey City, N. J.

Continental Rubber Co., incorporated New Jersey May 13, 1903 (as American Rubber Co.) and June 29, 1903; authorized capital (January 27, 1905), \$562,000—all preferred. Office: No. 111 Broadway, New York.

Continental-Mexican Rubber Co., incorporated New Jersey October 14, 1904; capital, \$100,000. Office: No. 111 Broadway, New York.

American Congo Co., incorporated New York October 22, 1906; capital, \$510,000. Office: No. 35 Nassau street, New York.

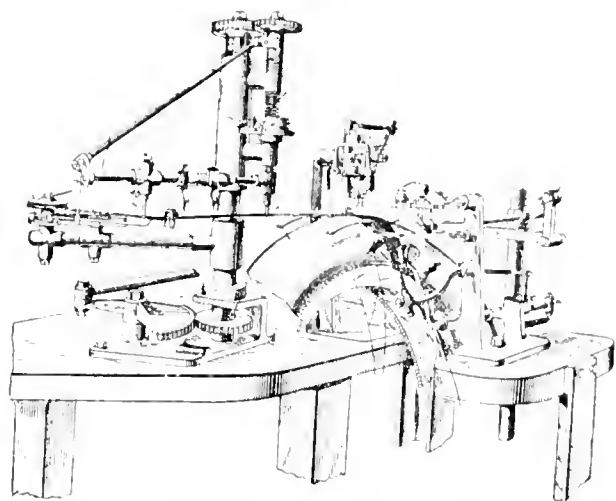
The "Continental" companies are now operating actively in the exploitation of "guayule" rubber in Mexico, and the American Congo Co. are laying the foundation for work on a concession granted recently by the Congo Free State government. The arrangement mentioned by President Colt doubtless refers to the purchase of crude rubber from the Continental companies, as they later may purchase from the Congo through allied interests. In various published interviews, President Colt has been quoted as saying that the United States Rubber Co. had under consideration plans for engaging in the Congo trade in the way of buying rubber direct, and it may be that the way will now be open through connections with the American Congo Co.

Recent newspaper reports have been based evidently upon the impression that the Continental Rubber Co. might establish factories for rubber goods as a means of disposing of their guayule product, and that the fact of their thus becoming competitors of the United States Rubber Co. as manufacturers had led the latter to consider the question of a general consolidation, but all of this lacks authentic confirmation.

The latest report regarding the transaction between the United States and Intercontinental companies is the latter will sell guayule rubber exclusively to the United States company, which agrees not to enter the field of the guayule production. The United States Rubber Co., it is stated, have an option for the purchase of a stock interest in the Intercontinental Rubber Co.

A TIRE FABRIC MACHINE.

WHILE we speak continually of "rubber" tires, and in terms that would be proper if they contained nothing but rubber, the fact is becoming more and more appreciated that, in the case of pneumatics, it is the textile fabric that really makes the tire. The inner tube—the air chamber—has become standardized, so to speak, so that one make differs little if at all from another, and the "cover" is the essential thing in deciding what tire to buy. And tire making has developed new needs in the way of fabrics, since none of the countless different means resulting from the cloth making art for thousands of years sufficed for the demand created by the introduction of the automobile. This is not the place for saying what is the best type of tire fabric now in use—possibly no one fabric on the market is best suited

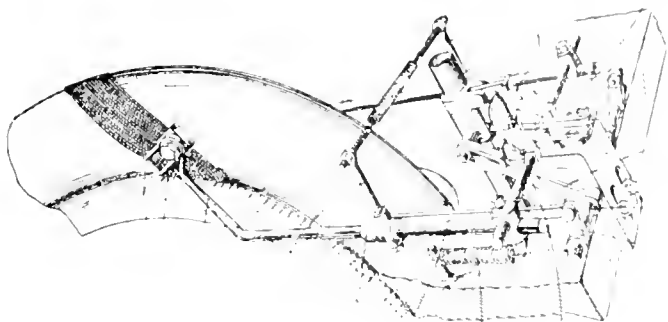


THE PALMER CORD LAYING MACHINE.

[In practice the "former" is a complete circle, permitting the fabric for an entire tire to be made upon it.]

for all the different requirements of pneumatic tire service—but in the field of successful tire making account must be taken of the Palmer Cord, and the ingenious machines invented for producing the fabric to which this name is applied.

Originally canvas was used as the restraining material in the making of pneumatic tires. But even while the demand for such tires was confined practically to bicycles specially designed fabrics began to be brought out to meet pressing demands.



DETAIL OF PALMER CORD LAYING MACHINE.

among the earliest being the Palmer invention, which has undergone various modifications to adapt it to the heavier service required of motor tires. In this fabric every thread is separated and cushioned in vulcanized rubber, with the effect of adding to the resistance of the tire in which it is used. At the same time the threads (warp and weft) are so arranged with relation to each that all the strains are direct, there are no slack threads, and the tensions on all the threads are uniform.

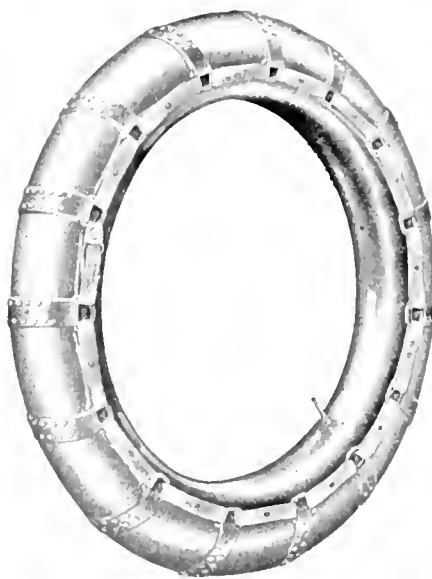
All these are desirable qualities, but all were not arrived at without much study and experimenting. Today the Palmer system involves not only the making of a particular class of fabric, but the cords themselves are specially made. After the system had been developed until it seemed that nothing remained to be done for its improvement, a machine was designed to replace hand work in the laying of the cord. Not only is great economy involved in the machine work, but it affords an equality of tension of the threads which it was impossible to obtain by hand work. It is stated that a pair of these machines will make the fabric for a motor tire in about nine minutes, against an average of about a day for an experienced girl by hand.

In this machine the cord is fed from a supply spool to a combined tension regulator and governor, which regulates the delivery and maintains a reserve supply of cord under uniform tension. A folding device measures off an exact length of this cord and folds it into a double loop. Automatic fingers then seize the loops and place them one on each side, in their proper positions, on a "former," and also on to the staples which are used in the bead of Palmer tires to anchor the loops of cord.

In addition to its other advantages, the use of this machine permits the work of tire making to be carried on in very much less space than was required before. At a recent motor show at Edinburgh The Palmer Tyre, Limited, exhibited these machines at work, forming one of the most interesting features of the show. The inventor is Mr. Thomas Sloper, who has designed so many improvements in the tire manufacture.

NEW DETACHABLE TIRE GRIP.

A TIRE grip developed by one of the largest leather manufacturing concerns in America, after a thorough study of the needs of motorists, is recommended, first, on the



HEAVY DETACHABLE TIRE GRIP.

score of not bringing any metal whatever in contact with the rubber of the tire. In construction it is similar to the chain grips already in use, but is made throughout of a very tough chrome leather treated by a water-proofing process. The cross straps of this grip have steel rivets inserted in them, which are referred to as giving much longer wear than the chain grip. The illustration serves excellently to show the structure and method of application of the new grip, which is marketed by the Healy Leather Tire Co., New York.

THE *Pará Diario Oficial* publishes a decree approving the plans for the harbor works to be constructed by the company Port of Pará. [See THE INDIA RUBBER WORLD, March 1, 1907, page 192.] The work on the first section is estimated to cost \$196,150,829, and the second part \$14,050,535, the figures being the equivalents of the gold milreis estimates published.

SEND to this office for a free copy of the index to "Crude Rubber and Compounding Ingredients."

JOHN BOYD DUNLOP.

WHEREVER pneumatic tires are used the name of Dunlop as an inventor is known—one who was a pioneer and whose invention possessed enough novelty and merit to make a definite impression upon the world. The success which the pneumatic tire speedily attained naturally appealed to a host of other inventors, or those who wished to be such, and the combined product of their work is a standard of tire construction to-day that is far removed from the type developed by John Boyd Dunlop twenty years ago. Yet the chief essentials of the pneumatic tire were embodied in Dunlop's first



JOHN BOYD DUNLOP.

patent specification, and all the improvements in detail that have been wrought in the trade have not resulted in giving such universal prominence to any other one inventor in this field.

It was about October, 1887, according to Mr. Dunlop's own account, that he began to consider the possible advantages of a pneumatic tire. The bicycle had already gained considerable vogue and solid rubber

tires were coming into use, but Mr. Dunlop was trying to think of something better than these. For some years he had been studying spring wheels, but at the date above mentioned he gave this up to deal with the problem of a more resilient rubber tire. He was at the time busy with his practice as a veterinary surgeon at Belfast, Ireland. He really intended postponing the actual work of an inventor until he should retire from practice, but his son, who had begun to ride a tricycle, knowing what was in the father's mind, pleaded with him for the new tire until further procrastination was impossible.

Procuring a disk of wood about 16 inches in diameter and 1½ inches thick, Mr. Dunlop proceeded to construct the rubber fittings he desired to convert it into a resilient wheel. He first constructed an air tube of sheet rubber one-sixteenth of an inch thick, inserting in it for the purpose of inflation a short piece of tubing such as is used in children's feeding bottles. Placing the air tube on the periphery of the disk of wood he covered the air tube with a strip of thin linen cloth and secured the cloth in a temporary manner to the disk by means of small tacks. The tire was inflated by means of a pump used for footballs and the little air supply tube tied with a piece of thread. This tire was completed one evening in December, 1887.

That evening Mr. Dunlop, accompanied by a few friends, went into his garden to test the rubber-tired disk in connection with the front wheel from his son's tricycle, the latter being equipped with a solid rubber tire. When they were rolled down a garden path the pneumatic tired disk seemed to go farther and faster. The two wheels were then tested for resilience, the result being in favor of the pneumatic. The disk when dropped to the floor from a height of about 4 feet was found to rise nearly to the point from which it was dropped.

These experiments confirmed Mr. Dunlop's theories regarding the advantages of a pneumatic tire and led him to complete the invention on which he applied for and obtained his first tire

patent in 1888. Mr. Dunlop lives now in Dublin, still taking an interest in pneumatic tire development, though no longer connected actively with the business.

RUBBER EXPLOITATION IN PERU.

AT the statutory meeting in London, on May 14, of the Inambari Para-Rubber Estates, Limited [organization reported in THE INDIA RUBBER WORLD, March 1, 1907—page 200], it was stated that of the 200,000 £1 shares allotted at the public subscription in February, 150,278 shares had been fully paid, and the total cash received to date on the shares was £165,959 [= \$807,739.47]. The preliminary expenses amounted to £21,941. The disposition of the capital thus far is as follows:

Purchase price, shares.....	£100,000
Purchase price, cash.....	100,000
Preliminary expenses.....	21,941
Working capital.....	78,059
Shares reserved in treasury.....	50,000

Total capital..... £350,000

The vendors to the new company are Frank Squier, of New York, and Sir George Newnes, Bart., M. P., of London, who are understood to be under agreement to disburse £120,000 of the £200,000 coming to them as follows: To the Sociedad Exploradora de Gomas Porras y Cia. and the Sociedad Gomera del Bajo Inambari, jointly, for leasehold properties, £40,000 in cash; to the Carabaya Rubber and Navigation Co., for a road concession, lands, properties, and rights, £40,000 in cash and £40,000 in shares. This would leave for the vendors £20,000 in cash and £60,000 in shares of the newly formed company. The location of the rubber properties is in eastern Peru, on the river Inambari, an affluent of the Madre de Dios. Two of the companies mentioned above have headquarters at Lima, Peru, while the Carabaya was organized at New York.

TEST FOR FARINHA IN RUBBER.

THOSE manufacturers who now and then receive lots of Pará rubber adulterated with the starch like meal of the mandioc or cassava plant—also called farinha flour—may be interested to know of the method of detecting such adulteration employed by Mr. Walter E. Piper, at the Boston Rubber Shoe Co.'s factories. Starch is a characteristic test of iodine, forming with it a deep blue compound. Mr. Piper uses a solution in water of iodine and potassium iodide, which is applied with a brush to the interior of a "ham" of fine Pará. If there is farinaceous matter present it will speedily take on a bluish appearance. Ordinarily the adulterant is not visible, and the manufacturer becomes aware of it only from the extra loss in washing rubber. Provided with a suitable test, the manufacturer would be in a position to refuse delivery of adulterated rubber, or to claim a rebate, and the buyer of rubber, say at Pará or Manãos, could similarly protest against the acceptance of rubber containing impurities beyond an agreed upon standard.

TIRE FACTORY AT SINGAPORE

THE first rubber factory to be established in the British Indies is the Singapore Rubber Works at Singapore, at which has been begun the manufacture of solid rubber tires for vehicles. Hooglandt & Co., a large firm of commission merchants of Singapore, at 19, Collyer quay, have been appointed agents for the new company for India, the Straits Settlements, Siam, Cochin-China, and China. The *Malay Mail* observes: "The works are buying their rubber direct from the producing centers, and the cheap labor makes it possible, we are informed, to compete successfully with the American and other tires up till now being imported."

FIRESTONE DISMOUNTABLE RIM.

THE Firestone dismountable rim, designed for reducing the delays incident to changing tires on the road, is adapted alike for the tourist and the racing motorist. By this system

annoying features of road tire repair may be eliminated by carrying an extra rim equipped with an inflated tire. The rim is referred to as absolutely safe; the mechanical fastening prevents it from coming off in case of accident, and it cannot creep or work around the rim, and thus come loose. The rim is removed from the wheel with a single lateral movement, thus presenting a surface for friction equal merely to the width of the felloe. The rim is removed by loosening the nuts, allowing them to remain on the bolts; the clips are turned in the opposite direction, and the nuts tightened to hold the clips in that position. The rim is then easily slipped off. In adjusting the extra rim with its inflated tire, the operation is reversed. The expense of changing automobile wheels to

permit their equipment with the dismountable rim is understood to be slight, and the rim is adapted to any standard clincher tire.

* * *

THE demand for a nonskidding tire of the pneumatic type has been recognized by the Firestone Tire and Rubber Co. (Akron, Ohio), who are now placing a "Dual Tread" tire on the market. The Dual tread is somewhat thicker than the ordinary tread, and consists of two ridges of rubber about $\frac{3}{8}$ -inch thick and from $\frac{1}{2}$ to 2 inches apart, extending around the tire. It is adaptable to tires of 3 $\frac{1}{2}$ -inch size and upwards, and may be incorporated in any type of tire during manufacture. It is claimed that this device gives nonskidding features in advance of those possessed by any other tire. The twin tire idea has been in use for some time with solid tires, particularly for heavy vehicles.



SAFETY OF FACTORY EMPLOYEES.

THE Exposition of Safety Devices and Industrial Hygiene held in January and February last at the American Museum of Natural History in New York is to be made a permanent museum of security. An advisory committee has been organized to further the work of protecting life and limb, the scope of which will include measures for the better protection of employes in factories from dangers connected with the use of machinery and from poisonous fumes and the like. The *Scientific American* (New York) has provided for a gold medal to be awarded annually for the best device for preventing accident. Further information can be obtained from Mr. William H. Tollman, director of the American Institute of Social Science, at the Museum of Natural History.

HEALTH OF RUBBER WORKERS.

A RECENT report by the state board of health of Massachusetts upon the sanitary condition of factories and workshops states in general that "in the rubber factories examined during this investigation the greater part were in better condition than those previously reported upon." It appears that 14 rubber fac-

tories were visited, on which there were 1,000 small. There were employed a total of about 1,000 men, mostly in making footwear. As a rule no "chloroform" was used upon the employes. It was noted particularly in one of the lead poisoning. In the case of new employes unpleasant but not serious effects from naphtha fumes were mentioned. "In but two cases was machinery found to be inadequately guarded, in one of the large gears of the open dets and in the others some right angled gears on spreaders were unprotected." In respect of lighting, ventilation and cleanliness, favorable mention is made.

RUBBER STAMPS FOR POSTAL USE.

THE United States postoffice department advertised for proposals, to be sent to Washington by April 22, for supplies of all kinds for the fiscal year beginning July 1, including rubber items of a greater amount than in any former year. The specifications included:

- 11,050 pounds rubber bands
- 900 boxes erasers.
- 1,150 dozen typewriter erasers.
- 104,800 rubber stamps, in great variety.
- 550 items of rubber stamp repairs.
- 10,445 rubber type.
- 400 rubber stamping pads.
- 42,000 dozen pads for rubber stamps.
- 1 gross finger cots.

The specifications two years ago included 6,800 pounds of rubber bands and 51,085 rubber stamps. This year's specifications do not mention "flexible stamps of printers' roller composition," of which a considerable number were taken at one time. [See *THE INDIA RUBBER WORLD*, June 1, 1905—page 314.] This year it is required that "all rubber stamps must be of the best quality of sheet rubber," with the cement guaranteed to hold for two years.

RUBBER GOODS FOR THE INDIANS.

THE specifications for supplies for the Indians, at the government expense, for the next fiscal year, and for which proposals were opened at Washington on April 11, included details regarding 740 pairs of rubber boots, 9,425 pairs of rubber shoes, 10,000 feet of garden hose, 1,715 feet of rubber belting and 1,455 pounds of rubber packing.

The awards for rubber footwear went chiefly to J. Edmund Strong, of Chicago, who has been the successful bidder on this line of goods for several years.

WANTS AND INQUIRIES.

- [403] NAMES of manufacturers of unlined linen hose are desired by a Western rubber company.
- [404] Can any of our readers inform an inquirer if it is practicable to reclaim shoddy with dry heat?
- [405] Where can *Castilloa* rubber seeds be procured?
- [406] Who manufactures the following kinds of packing, and who are the American agents— "Durabla," "Vanda," "Klinger-tite"?
- [407] Wanted names of makers of machinery for extracting the latex from rubber trees by creating a vacuum or similar means.
- [408] Wanted the name of the manufacturer of "Rockhard" packing.
- [409] Wanted names of manufactures of gutta percha tissue for tailors' use.
- [410] Wanted name of firms making special machinery for the manufacture of fountain pens.
- [411] Who manufactures gutta-percha tissue in black, white and brown for mending purposes?

THE Chiapas Rubber Co., of Mexico, is mentioned among the purchasers of a press for preparing rubber in "block" form, made by Brown & Davidson, Limited, of Colombo, Ceylon.

D. LORNE MCGIBBON, PRESIDENT.

MR S H C MINER, having retired from the presidency of the Canadian Consolidated Rubber Co., has been succeeded by Mr. D. Lorne McGibbon, who becomes general manager as well as president. At the first annual general meeting of the company at Montreal, on May 7, the board of directors were reelected, except that the vacancy caused by the retirement of Mr. J. H. McKechnie was filled by the choice of Mr. E. W. Nesbitt. The board now consists of:

S. H. C. Miner,	Alexander Pringle,
G. W. Stephens, M.L.A.,	C. C. Ballantyne,
D. Lorne McGibbon,	H. J. Fuller,
James Robinson,	W. R. Allan,
E. W. Nesbitt,	A. C. Flumerfelt,
Shirley Ogilvie,	

After the meeting of shareholders a meeting of the directors was held, when the following were elected officers of the company:

President and Managing Director.—D. Lorne McGibbon.
Vice-President.—Major George W. Stephens, M.L.A.
Secretary-Treasurer.—F. H. Ward.

The Canadian Consolidated Rubber Co., Limited, was organized in December last, under letters patent of the Dominion of

Canada, for the purpose of acquiring control of a number of leading rubber factories, the list of companies now owned being as follows: The Canadian Rubber Co. of Montreal, Limited; The Granby Rubber Co., Limited, of Granby; The Maple Leaf Rubber Co., Limited, of Port Dalhousie; The Merchants' Rubber Co., Limited, of Berlin, and the Berlin Rubber Manufacturing Co., Limited. The capital of the consolidated companies consists of \$2,000,000 in



DOUGLAS LORNE MCGIBBON.

[New President of the Canadian Consolidated Rubber Co., Limited.] \$2,000,000 in 7 per cent, preferred shares, and \$3,000,000 in common shares—total \$7,000,000.

The new president of the corporation, Mr. D. Lorne McGibbon, has for some time past filled the position of vice president and managing director of The Canadian Rubber Co. of Montreal, Limited, with distinguished success. Since the reorganization of the latter company the controlling spirits have all been young men, and the showing they have made has been such as to prepare the public for the elevation to the head of one of the largest industrial corporations in the Dominion of a man yet considerably less than 40 years of age.

Douglas Lorne McGibbon, whose parents were of pure Scotch descent, was born November 24, 1870, at "Thornbury," Montreal, and was educated at the High School of Montreal. His father, the late Major Alexander A. McGibbon, who died three years ago, was long a leading merchant in Montreal, afterward rendering signal services to the government in dealing with the Indians in the Northwest. At an early age Mr. McGibbon entered the life insurance business in Montreal, going later to the United States, where he spent six years in various departments of the coal trade, principally at St. Paul and Chicago. By 1893, when

he returned to Canada, he had acquired a valuable business experience, which he first turned to account as director of a trading company in the Northwest Territory, and next in connection with the Laurentide Pulp and Paper Co., at Grand Mere, the largest concern of its kind in Canada. He resigned as general manager of the latter company in 1902 to accept a similar position with The Canadian Rubber Co. of Montreal, Limited. This was an important concern, with a history of nearly a half-century, but in need, as later events proved, of new ideas and a new policy, and the want was supplied through the suggestions of the new general manager, who had devoted his business life to the study of the systematic administration of affairs. The rubber company was completely reorganized, its capacity and its output increased, and the business replaced on a good dividend paying basis. At last year's annual meeting the company's appreciation of Mr. McGibbon's work was shown by his election to the office of vice president as well as general manager.

With all his devotion to system, Mr. McGibbon does not believe the same system applicable to every business; the special needs of each business must be dealt with. Nor does he believe in spending \$10 in system to save \$1 in business. Mr. McGibbon is a member of the Montreal Board of Trade and a vice president of the Canadian Manufacturers' Association. He is a director of the Canadian Appraisal Co. and interested in many other industrial concerns. He does not, as might be supposed, devote all of his time to business, but is a member of the St. James Club, the Canada Club and other social organizations. Mr. McGibbon was married, in 1897, to Miss Ethelwyn Waldock, niece of Mr. Wallace Nesbitt, K. C., late a judge of the supreme court.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufacturers of india-rubber and gutta-percha for the month of March, 1907, and for the first nine months of five calendar years:

Months.	Belting, Packing and Hose.	Boots and Shoes.	All Other Rubber.	Total.
March	\$113,038	\$44,395	\$343,756	\$501,189
July-February ...	\$801,238	\$18,569	\$2,321,211	\$4,041,018
Total	\$914,276	\$62,964	\$2,664,967	\$4,542,207
Total, 1905-06.	942,654	1,340,602	2,125,551	4,408,807
Total, 1904-05.	670,551	1,002,731	1,831,748	3,505,030
Total, 1903-04.	667,567	946,439	1,700,522	3,410,528
Total, 1902-03.	596,799	948,505	1,623,362	3,168,666

Exports of reclaimed rubber for the past nine months amounted in value to \$492,869.

RUBBER GOODS IN TURKEY.

In a report on the imports of rubber goods into Turkey, the American consular office at Constantinople estimates the total annual value of footwear at between \$370,000 and \$430,000, and all other rubber goods at from \$150,000 to \$170,000. The footwear is supplied by the following countries, named in the order of importance in the trade: Russia, Germany, United States, Great Britain, France and Sweden. The share of the United States is estimated at \$85,000 to \$95,000; the brands covered are the "Candee," "Federal" and "Para," which are preferred by the wealthy classes on account of being light in weight and attractive in shape. Those who prefer heavier and more durable goods buy the Russian products. The imports of mechanical rubber goods, including sheet and tubing, are estimated at \$60,000; surgical goods, \$20,000; and waterproofs and raincoats, \$70,000.

POOR BURGESS!—Somebody was inquiring the other day as to what "para-typhoid" was from which Mr. Sturgess was suffering. According to expert evidence it was a type of Lowlands Malay-ria.—*Ceylon Observer*.

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

THE Joseph Stokes Rubber Co. filed with the secretary of state of New Jersey on May 11, 1907, a certificate of amendment of their articles of incorporation, increasing their capital stock from \$150,000 to \$250,000. The new issue is composed of \$150,000 in 6 per cent. cumulative preference shares, and \$100,000 in common stock. The increase was decided upon by the directors on April 26 and was ratified by the stockholders May 3. The company was incorporated March 17, 1897, with a capital of \$50,000. The growth of business made necessary an extension of the equipment, and on October 6, 1905, the authorized capital was increased to \$150,000. The demands of an increasing trade have made this second increase necessary. According to the certificate filed there are 937 shares of preferred and 500 shares of common stock outstanding. The incorporators of the company were Joseph Stokes, William J. B. Stokes, Joseph O. Stokes, and Charles E. Stokes. The present officers are Charles E. Stokes, president, and Joseph O. Stokes, secretary. The latest increase in capital will be devoted to an extension of the hard rubber business of the company. Though they manufacture mechanical rubber goods, their principal work is turning out a full line of hard rubber articles. The factory is being operated several evenings each week. The company are putting in a new 125 H.P. boiler built by the Biggs Boiler Co., of Akron. They will also erect a brick fireproof vault 20x20 feet in which to store their large stock of dies.

The Eagle Rubber Cement Co. report business as prosperous. During the past three years they have been gradually extending their trade, and they now sell cement to all sections of this country, and export to Germany, France, and other countries. Adolph Biller is president of the company, and A. K. Leuckel secretary and treasurer. The cement is the invention of Mr. Biller, who formerly was with the Eclipse Cement and Blacking Co., of Philadelphia.

William P. Coldron, of Lebanon, Pennsylvania, has filed two suits in the United States circuit court at Trenton against the Empire Rubber Manufacturing Co., of this city, alleging infringement of patents. In his bill of complaint in the first case Mr. Coldron alleges that in 1902 he made a trade agreement with the Empire company by which the latter were to manufacture preserving jar rings with a machine on which the complainant owned the patent. This contract, he alleges, expired in May, 1905, but since that time the Empire company have continued to use the machine and to make the rings in violation of the contract. The second suit is similar. It involves a machine for the manufacture of "lipped" sealing rings for fruit jars. In this case the allegations are practically the same as in the other. The Empire company have not yet filed an answer.

City Treasurer W. J. B. Stokes, of the Trenton, Joseph Stokes, and Home rubber companies, is on an extended trip through the West, combining business with pleasure. He planned to visit Utah, Nevada, California, and Oregon, returning by way of Minneapolis and Chicago, and is expected to return to Trenton about June 8.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE Sterling Rubber Co., now located in their new and more commodious quarters at No. 301 Market street, are beginning to receive some shipments of goods from the East. The president of the company, Mr. W. M. Gibson, at present in the northern part of the state, reports that territory in a flourishing condition. The demand is growing for all lines and especially in sundries better prices are being had and the quality of goods demanded is almost always the best to be obtained. This company has secured the state agency for the Balata belt, which is

proving good. Mr. A. L. Torrey, secretary of the New York Leather Belting Co., says that a state at Washington that there are 45 million pairs of the Balata belt in the district using balata belts.

The Bowers Rubber Works, commenced the first anniversary of the San Francisco branch by publishing a large new catalogue and another illustrated booklet showing the new works which they have built at Black Diamond. Mr. Chase reports for the firm that they are extremely busy now.

Mr. Rumsey, representative of the James W. Paines Hose and Belting Co. (St. Louis), recently visited the trade in San Francisco. Also Mr. Gibbs, representing the Mackay Rubber Manufacturing Co. (New York).

Mr. U. R. Grant, one of the best known men in the local rubber trade, and for many years manager of the Gorham Rubber Co., has become outside representative of the new branch of the Pennsylvania Rubber Co., which has been established in San Francisco. Mr. L. L. Torrey, who formerly represented this company on the coast as traveling salesman, will take charge of the new branch as inside man. The new store is located at No. 512 Mission street. It will carry a full line of rubber goods and will also have a tire repair plant.

Mr. Frank S. Roberts, formerly traveling salesman for the Seattle branch of the Gorham Rubber Co., has come to take the position left vacant by the resignation of Mr. Grant, the former manager. George W. Wright has been sent out by The B. F. Goodrich Co. to locate with the Gorham Rubber Co., who handle the Goodrich tires, to look out after the trade in the West.

Mr. R. H. Pease, president of the Goodyear Rubber Co., on his return from his Eastern trip, states that he finds conditions at home very good. "Things are getting down to the normal again," he said. "We had great difficulty for a while in getting ducks, drills and shooting with which to work, but these are being turned out now so that we can go ahead as usual. Business for April of this year has been better than ever before, and prospects for the general trade in California are very favorable, although, of course, at present the street car strike has made business dull in San Francisco, and while that lasts we are simply turning our attention to the country trade." This company has just got its new \$7,000 press in operation and is now beginning to work on the big order for 700 concentrated belts which they laded a short time ago.

Joseph V. Selly, Pacific coast representative of the Boston Woven Hose and Rubber Co., states that the business outlook for the rubber houses, and in fact, all kinds of commodities, was never better than at the present time. This is true not only in the mechanical rubber lines, but in all lines of the business. The business conditions here, he said, are away beyond normal, and the outlook is that they will remain so for a long time to come.

Mr. Chase, of the Bowers Rubber Co., reports that the work of constructing their new permanent quarters on Sacramento street is making progress, and that they expect to occupy it by the first of June. They are working our plant day and night, such is the demand for goods, making up for back orders and trying to keep up with the current business.

Max F. Licht, a well known local shoe man, says, in relation to the rubber shoe trade during the recent rainy season: "People wore rubber overshoes who had never worn them before. As a rule the ordinary man in San Francisco, and women, too, go through the winter without investing in a pair of rubber shoes, but it was not that way this year, and along toward the close of January when it began to look as though the rainy weather never would quit, there was such a call for rubber goods that every store in the city was completely out of stock."

[CORRECTION. In the last issue of THE INDIA RUBBER WORLD (page 255) Mr. H. W. Bogen, of No. 766 Golden Gate avenue, who handles exclusively the Continental Rubber Co.'s tires, was inadvertently referred to as the Pacific coast representative of another tire company.]

THE RUBBER TRADE AT AKRON.

LOCAL PRESIDENT CORRESPONDENT

CHARLES C. GOODRICH, a son of the late Dr. B. F. Goodrich, founder of The B. F. Goodrich Co. and present assistant general superintendent of the company's plant here, has announced that he will tender his resignation, to take effect on January 1. Shortly afterward Mr. Goodrich will leave with his family for the East and will take up his permanent residence probably in New York. His magnificent home, "Westwood," in this city, has been sold. As his reason for resigning, Mr. Goodrich states that under the terms of his mother's will he is appointed administrator of her large estate, which is located in several of the eastern states, and his entire attention is needed to properly care for the estate. Mr. Goodrich was recently elected a member of the Akron city council and will, he says, serve out his full term before leaving. Mr. Goodrich was born in Akron and has lived here during the greater part of his life.

Along with the announcement that the Miller Rubber Co. have purchased property adjoining their factory for building purposes, comes the report that the new structure, which will be erected within a short time, is for the purpose of affording room for the manufacture of tires, a branch of the industry in which the company has not been engaged heretofore.

The Byrider Electric Auto Co., incorporated under the laws of Ohio on May 3, with \$60,000 capital, includes W. A. Byrider and James A. Swinchart, the patentees of the "Sidewire" vehicle tire, which, by the way, is known in Europe as the "B. & S." tire, from the names of its inventors. The new company has purchased a plant at Cleveland and begun the manufacture of cars. The major portion of the stock is held by Mr. Byrider and his brother.

RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

THE Hood Rubber Co., American rubber footwear manufacturers, have established an European agency in London, at 141 High street, Shore-ditch, in charge of Mr. C. W. Randall.

The St. Helens Cable and Rubber Co., Limited, have lately outfitted a new factory at an outlay of about £10,000. A feature of the new plant is that the electric drive system has been adopted for all their machinery.

Johnson & Phillips, Limited, manufacturers of insulated wires and cables, reported profits for 1906 of £33,104, notwithstanding the hindrance to business from an extensive fire early in the year. New fireproof buildings have been erected at Old Charlton which bring their capacity up to the former limit. A dividend of 7 per cent. on the ordinary shares was declared; there are no preference shares.

The Leyland and Birmingham Rubber Co., Limited, is making a rubber cored golf ball, the core being referred to as wound with special machinery.

Mr. James Tinto, managing director of the Irwell and Eastern Rubber Co., Limited (Salford, Manchester), and who has been elected chairman of the India Rubber Manufacturers' Association for the current year, is spending a few months in South Africa on business.

FRANCE.

THE Société Lyonnaise de Caoutchouc Souple et Durci are increasing their capital from 425,000 to 1,000,000 francs.

A company styled "Le Sans Valve" has been formed in Paris, at 22 Quay de Béthune, with 300,000 francs capital, to exploit a pneumatic tire tube without valves.

The dividends payable April 17 from the profits for the last business year of Etablissements Hutchinson, the principal footwear manufacturers of France, were 30 francs per share (10 per cent.) on the preference and 25 francs (8 1/3 per cent.) on the ordinary shares.

The capital stock of Etablissements J. B. Torrillon (Clermont-Ferrand) has been increased from 4,000,000 to 6,000,000 francs [= \$1,158,000], by the issue of 20,000 shares of 100 francs at 125 francs, the issue being reserved to the former shareholders. Their shares have been quoted recently at 159. Dividend for the past year, 6 per cent.

The tire manufacturers, Falcomet-Perodeaud, realized a net profit of 204,897 15 francs [= \$50,915.15] in the last business year and disbursed a dividend of 8 per cent. on the capital of 1,700,000 francs. The capital is to be increased to 2,000,000 francs [= \$386,000].

A recent number of *La Technique Automobile* (Paris) illustrates five new types of spring wheels, and almost every issue of that estimable paper contains as many or more new and ingenious wheels.

GERMANY.

THE Continental Caoutchouc- und Gutta-percha-Compagnie (Hanover) declared a dividend of 40 per cent. out of earnings for the last business year, the same as for the year before. Their capital now amounts to 6,000,000 marks [= \$1,428,000].

The Lohringer Gummiwerke G. m. b. H., at Metz, has been registered with 140,000 marks [= \$33,200] capital, to manufacture rubber goods. Dominick Bailer is manager.

Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken have concluded a prosperous business year, the dividend remaining at 9 per cent. The capital is now 3,500,000 marks [= \$833,000], having been increased during the year for the purpose of acquiring the H. Schweizer Sachsische Gummi- und Guttaperchawaaren-Fabrik in Dresden, at a cost of 686,627 marks. The Berlin-Frankfurter company are now operating five factories. THE INDIA RUBBER WORLD, June 1, 1905—page 315, reported their purchase of the C. Schwanitz & Co. stock company, in Berlin, whose factory they have since continued at work.

NORWAY.

THE organization is reported of the Viking Gummi-Kompagnie, at Christiania, to manufacture goloshes and india-rubber goods generally, with a view to beginning operations before the end of 1907.

SWEDEN.

THE waste rubber trade in Sweden, owing to the large consumption of *goloshes* in that country, has developed important proportions. Gunnar Hirsch, of Stockholm, is one of the principal dealers in waste rubber in Sweden, doing a large business in various kinds of waste, but particularly in old shoes.

The Aktiebolaget Continental Caoutchouc Compagnie has been registered at Stockholm, with a capital of 25,000 kronen [= \$6,700], and the power to increase to 75,000 kronen, to deal in rubber goods. Erik Crispin Lundin is manager.

RUSSIA.

THE Russian-French India Rubber Works "Prowodnik," at Riga, during 1906 produced rubber footwear of the value of 15,185,976 rubles, and mechanical, surgical and other rubber goods valued at 6,085,000—a total of 21,270,976 rubles [= \$10,994,952.64]. Beginning work in 1880, with 500,000 rubles capital, the amount has increased to 7,000,000 rubles, with reserves amounting to 6,085,000. The production of footwear has increased from 500 pairs daily, in 1890, to 35,000 to 40,000 pairs at present.

PROCESS OF RECLAIMING RUBBER.

THE process of recovering rubber from rubber waste, patented by William A. Koenenman, of Chicago, consists in boiling the waste material, reduced to a finely divided shape, with the addition thereto of a suitable proportion of mixable hydrocarbon in a mineral-acid solution containing a halogen salt of the alkaline group, such as sodium or calcium chloride, and removing the dissolved and decomposed fiber. The rubber remaining is boiled in a solution of alkaline salt, and washed and dried. The hydrocarbon referred to may be tar, pitch, resin or balsam.

News of the American Rubber Trade.

SALE OF MILWAUKEE RUBBER WORKS

THE assets of the Milwaukee Rubber Works Co. (Milwaukee, Wisconsin), in bankruptcy, were purchased on May 6, at a sale authorized by the referee in bankruptcy, by parties who will continue the factory in operation, under the style Federal Rubber Co. Additional land has been secured and it is planned to triple the capacity of the plant by adding buildings and equipment to the cost of approximately \$200,000. The new company expect to control the rubber reclaiming process recently patented by W. B. Koneman, of Chicago, for which a special plant is now being constructed. The details of the new corporation have not been perfected, but it is expected that the capital stock of the Federal Rubber Co. will amount to nearly \$1,000,000, subscribed by the wealthiest citizens of Milwaukee, of which city Cudahy is a suburb.

The Milwaukee Rubber Works Co. was incorporated March 3, 1903, under the laws of Wisconsin, with \$100,000 capital, and in the same year erected a factory and began the manufacture of tires and mechanical goods. On March 21, 1906, a petition in involuntary bankruptcy was filed against the company by William Becker (since deceased) and others. Mr. Becker, who had become president a year or more before, had a claim against the company of \$100,000 for money advanced. The Milwaukee Trust Co. was appointed receiver in bankruptcy and the factory was continued in operation under orders from the court. At the first meeting of creditors the Milwaukee Trust Co. was elected trustee. The rubber company's assets were appraised at \$166,035.35¹/₂ and the liabilities at \$254,309.68.

W. W. Wildman, who latterly was general manager of the old company, will fill the same position with the Federal Rubber Co., incorporation papers for which were filed on May 10.

TYER RUBBER CO.—FACTORY ENLARGEMENT.

THE Tyer Rubber Co. (Andover, Massachusetts) are planning to make extensive additions to their factory this summer, and have already placed the contract for the new buildings which Marr Brothers, of Boston, the architect for the same being Henry J. Preston, who designed their present factory. The additions include a general enlarging of their entire plant and call for additional washers, sheeters, mills, calenders, vulcanizers, presses, and increased machine shop facilities, together with another cross compound condensing engine, cooling tower, and additional vacuum pump, and cistern of reinforced concrete holding 60,000 gallons, connected with another fire pump. The completed fire protection system will permit 18 streams of water to be played upon any part of the building. The same sprinkler system will be installed in the new building as in the old. The entire plant will be lighted electrically, and part of the machinery will be run by electricity. The steam boiler capacity will be 1,000 h.p. The present No. 1 mill will be raised one story; the No. 3 mill, five stories high, will be extended 100 feet, and there will be an additional foundry, new compounding room, enlarged engine room, and additions to the sun bleaching and laboratory. The old cement house will be replaced by a new one built of brick, without the use of any wood. The contract calls for the completion of this work by August 15, after which the company will be using four acres of floor space in the manufacture of "Tyran" rubber goods and give employment to about 800 operatives.

MATTSON RUBBER CO.—CHANGE OF LOCATION.

THE Mattson Rubber Co. are equipping a model rubber factory at Lodi, New Jersey, for the manufacture of their patented specialties, a general line of mold work, and unvulcanized stocks. The company, having purchased the property, are fitting up the buildings in first class condition, including an up-to-date

automatic sprinkler system. The new factory is now in operation. By July 1, 1907, the Lodi factory will comprise part of the extensive factory of the Federal Rubber Co. (Belleville, New Jersey) prior to the destruction of that plant last year, since which time they have been running a temporary plant at Jersey City, all orders having properly been filled in the meantime. The company maintain a New York distributing depot for automobile tire repair machines at No. 981 English Avenue, Lodi is on a branch of the Passaic river, not far from Passaic, N. J., which has become an important rubber manufacturing center.

Hardman Rubber Co., manufacturers of hard rubber goods, advise THE INDIA RUBBER WORLD that they are rebuilding their factory, which was burned at Belleville, and expect to have it complete and equipped and ready for work by July 1.

INCREASE OF CAPITAL AT LA CROSSE.

At a recent meeting of the shareholders of La Crosse Rubber Mills Co. (La Crosse, Wisconsin) it was voted to increase the capital stock to \$500,000. This company was incorporated early in 1867, with \$10,000 capital, and began operations in April of that year, manufacturing mackintoshes. The business of the company has grown steadily from the beginning, under the direction of Mr. George S. Andrus, the general manager. In October, 1905, the manufacture of rubber footwear was taken on, and various other additions to the list of products have been made from time to time.

ST. PAUL RUBBER CO.—INCREASE OF CAPITAL.

THE St. Paul Rubber Co. (St. Paul, Minnesota) have amended their articles of incorporation to provide for an increase of capital stock from \$75,000 to \$150,000, of which it is understood that \$100,000 has been paid in. This business was organized 30 years ago as the first rubber jobbing house in the Northwest, west of Milwaukee, and has experienced a steady growth from the beginning. They carry lines of rubber footwear and clothing and druggists' sundries, and are northwestern agents for the American Rubber Co.

MANUFACTURED RUBBER CO.'S ANNUAL.

At the annual meeting of shareholders of the Manufactured Rubber Co. (Philadelphia) on May 8, at the registered offices of the company in Camden, New Jersey, the directors were reelected Clayton F. Platt, John S. Arndt, George G. Peterson, J. P. Cunningham, Edward J. Dunce and G. H. B. Martin. The net profits for the year ending January 31 last were \$15,307. The company operates a rubber reclaiming plant at Metuchen, N. J.

THE TRADE AT OMAHA.

THE Omaha Rubber Shoe Co. (Omaha, Nebraska), incorporated in January, 1902, to wholesale rubber footwear, have put in "everything in rubber," and are now agents for well known factories in different lines. President F. H. Sprague states that the published reference to the enlargement of their store was incorrect, though they need more room and are looking for larger quarters.

FAILURE IN THE JOBBING TRADE.

At a meeting of some of the larger creditors of Glaskin, Comstock Co., wholesalers of rubber goods and mill supplies of Duluth, Minnesota, a committee was appointed to investigate their affairs, composed of Raymond B. Carter, who has been connected with The Gutta Percha and Rubber Manufacturing Co., and John F. Fowler, of the St. Paul Rubber Co. The committee valued the assets of the firm at \$488,953, liable to depreciation to the extent of \$5,500, with a balance of \$19,361.78. In accordance with the committee's report, the creditors have decided that the business should not be continued but that

the stocks should be disposed of as promptly as possible. The concern here mentioned was incorporated January 17, 1905, with \$50,000 capital, to succeed the Thomson Glaskin Co., incorporated four years earlier. H. I. Glaskin, active in the management throughout, was formerly the Duluth representative of W. S. Nott Co., the Minneapolis rubber jobbers.

A "COLORADO RUBBER" FAILURE.

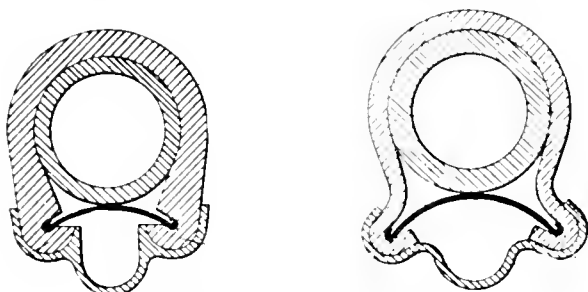
THE property of the American Production Co., at Buena Vista, Colorado, consisting of land and three frame buildings, was offered at public sale on April 20 and brought \$247—barely enough to pay the taxes due. The engines and machinery at one time on the premises were sent away several months before. The company was incorporated May 12, 1905, under the laws of New Jersey, to extract rubber from the Colorado "rabbit weed," with \$50,000 capital authorized. The incorporators were mainly Pittsburgh people.

NEW ENGLAND RUBBER CLUB "LADIES' NIGHT."

THE first "ladies' night" in the history of the New England Rubber Club was given on the evening of May 10 in Chipman Hall, Masonic Temple, Boston, and was well attended, there being about 140 ladies present. A program of high class vocal and instrumental music was rendered by some of the best talent in Boston. A feature of the entertainment was a series of performances on the Choralcello, a new instrument in which electricity is involved in musical tone production through the vibration of piano strings.

A "CLINCHER" TIRE INFRINGEMENT SUIT.

IN *re* Boston Woven Hose and Rubber Co. v. Pennsylvania Rubber Co.—a suit for infringement of United States patent No. 406,577 (for a pneumatic tire), issued January 5, 1892, to Frederick Schrader, of Philadelphia—the *prima facie* evidence for complainant and evidence for defendant have been taken, and it is understood that evidence for complainant in reply is



FIRE CROSS SECTIONS—SCHRADER'S PATENT.

being taken. The suit was filed May 26, 1906, in the United States circuit court for the district of Massachusetts, and the defendant filed answer December 4, 1906. The invention covered by the Schrader patent relates to a flexible inflatable tire capable of being readily and securely fastened to the wheel. Under the specifications the tire may be made in various forms, two of which are suggested by the accompanying drawings. The rim is made with a central annular groove, with annular grooves on each side, which serve as pockets for the reception of the tire cover. On the inner side of each edge of the cover is an annular groove, the two serving for the reception of a flexible plate or band, designed to stiffen when tension is applied, as by the inflation of the inner tube. Various means are specified for drawing together the ends of the securing band, to holding the tire more securely in position, and for providing for the inflation of the tire, but the salient features of the invention are indicated by the cuts. It has been suggested in the trade that if the Schrader patent is upheld it may prove broader in scope than would at first appear—affecting, in fact, the status of all tires of the "clincher" or like types except those held on rims solely by the fact of inflation. The Schrader patent will terminate on January 5, 1909.

LOSSES BY FIRE.

FIRE on the morning of April 29 destroyed a wing of the factory of the Housatonic Rubber Works (Bridgeport, Connecticut), in which were contained the drying rooms for stock. The fire started in a waste paper basket in the office. The structure destroyed was of wood, 40 x 60 feet in size, and will be replaced by a brick building of the same dimensions. Loss on the building and reclaimed rubber about \$11,000, fully insured. The Housatonic company have been reclaiming rubber for about 25 years. J. A. Wilson is president and P. A. Wilson secretary.

A. G. Spalding & Brothers' Manufacturing Co. advise THE INDIA RUBBER WORLD in regard to a fire, reported on April 20: "The fire we had at our Stoughton factory was not a very bad one. It has been all fixed up and we are running again. It is not our intention to move that plant." Reference is made to the golf ball factory acquired from the Stoughton Rubber Co.

NEW INCORPORATIONS.

ON May 1 the business of Charles Niedner (Malden, Massachusetts), manufacturer of underwriters' linen fire hose and cotton fabrics for insulation, was turned over to the Chas. Niedner's Sons Co., a Massachusetts corporation of which the president and treasurer is William Niedner, hitherto the general manager of the business, and the secretary is Charles L. Niedner, who has been in charge of the manufacturing end.

Wallace L. Gough Co., May 11, 1907, under New Jersey laws, to deal in crude india-rubber, gutta-percha, and balata; capital, \$50,000. Incorporators—W. L. Gough, E. E. Hallick, and H. M. Gough. The new corporation takes over the business of Wallace L. Gough & Co., rubber merchants, at No. 108 Water street, New York, and No. 186 Devonshire street, Boston.

Martin-Evans Co., May 3, 1907, under New York laws; rubber tires and automobile supplies; capital, \$30,000. To take over the business of the New York-Broadway Rubber Tire Co. (incorporated in New Jersey, November 7, 1901), with a plant at No. 1186 Bedford avenue, Brooklyn, N. Y. Incorporators: Delmar D. Martin, general manager of the old company; M. L. Martin, and F. E. Evans.

The Traver Blowout Patch Co. has been incorporated under New York laws, with \$10,000 capital, to manufacture devices for the protection of pneumatic tires. Directors: M. McNamara, P. McNamara, L. F. Walter, Jr., and Peter Schmunk. Office: No. 1205 Broadway, New York.

Articles of incorporation have been filed, under the Massachusetts laws, by Samuel Cabot, Incorporated, with \$315,000 capital, to carry on the business of paints and pigments, founded by the late Samuel Cabot, of Boston. H. B. Cabot is president and E. Cunningham treasurer. This house has long done an important business in supplying lampblacks for the rubber manufacturers.

CHANGES OF ADDRESS.

THE Seamless Rubber Co. (New Haven, Connecticut) announce that owing to the increase of business it has been necessary to remove their New York quarters from No. 111 Chambers street to No. 206 Broadway, at which place they will carry a complete stock of goods.

The Gutta Percha and Rubber Manufacturing Co. (New York) have changed the location of their Chicago branch from Nos. 96-98 Lake street to Nos. 224-226 Randolph street.

Goodyear's India Rubber Selling Co., recently incorporated as the sole selling agents for Goodyear's India Rubber Glove Manufacturing Co., have removed their Chicago office to No. 166 Jackson boulevard (Royal Insurance building). A. W. Smith is the company's Western representative.

"BETTY."

AMONG the recognized harbingers of spring, in this country at least, is the annual appearance of a new "Goodrich Girl." This year's addition to the long list of attractive pictures coming under this heading is "Betty," who does not suffer from

comparison with her predecessors. The picture, as distributed by The B. F. Goodrich Co. to their friends, is a lithographed copy of a painting in oil by Philip Boulan, and everybody connected with the production may well feel pleased with the result.

THE BROWN SHOE CO. (ST. LOUIS.)

THIS is the first St. Louis house to secure space for an exhibit at the World's Shoe and Leather Fair, to be held in Boston in July, 1908. They will exhibit particularly their "White House" shoes for men and women, and "Paster Brown Blue Ribbon" shoes for boys and girls. The Brown Shoe Co. report satisfactory conditions in their rubber footwear trade, they having taken about their accustomed volume of orders for fall shipment, consisting of "Goodyear Glove" goods for first grade and "Jersey" for second grade.

ACKER PROCESS CO. TROUBLES.

A PETITION in involuntary bankruptcy has been filed in the United States district court in New Jersey, against The Acker Process Co., chemical manufacturers of Niagara Falls, N. Y., and Thomas E. Bedle, of Jersey City, appointed receiver. The company was incorporated April 1, 1899, under the New Jersey laws, with \$3,000,000 capital. The recent financial trouble is attributed to the fire which destroyed their plant on February 26. The creditors held a meeting on May 20 to prove their claims and appoint a trustee. The company had decided not to rebuild, but some of their patents on processes may be taken over by other companies in the same line of business.

TRADE NEWS NOTES.

THE sale of the property of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey), advertised by the receivers to take place on May 3, was postponed until Friday, May 31—a date too late for a report of the result to be given in this issue.

Charles M. Evans, of Lawrence, Massachusetts, has sold his shoe store, to devote his attention wholly to the Globe Mills Rubber Co., of that city, in which he has been interested from its beginning. Mr. Evans has been mentioned in THE INDIA RUBBER WORLD as having made trips securing orders for the rubber company.

Contracts involving \$100,000, it is reported, have been awarded for enlarging the plant of the Midgley Manufacturing Co. (Columbus, Ohio), makers of steel wheels and motor car wheel rims, the president of which is Thomas Midgley, consulting engineer for the Rubber Goods Manufacturing Co.

The Diamond Rubber Co. (Akron, Ohio) have established a general agency for their tires at Pittsburgh, Pennsylvania, at No. 16 Wood street, in part of the building occupied by the Pittsburgh Rubber and Leather Co., a selling concern organized in 1901, to handle the Diamond Rubber Co.'s products.

Thomas Calvert has been appointed receiver of the partnership property of Henry G. Dorsch and Christian F. W. Reiss, brothers-in-law, who did business as the Replique Rubber Tire and Shoe Co., No. 346 West Fifty-third street, New York, in a suit brought by Dorsch for a dissolution and accounting. The business dates from November 10, 1906. Dorsch values the stock at \$6,000 and the good will at \$10,000.

The Consumers' Rubber Co. (Bristol, Rhode Island), who are now devoting themselves particularly to the insulated wire trade, are reported to have added to their equipment lately 80 new braiding machines, increasing the number in their plant to upwards of 300.

Dr. William M. Habirshaw, of the India Rubber and Gutta Percha Insulating Co. (New York) is spending a two months' vacation abroad, mainly in England.

Rickaby Rubber Manufacturing Co. (South Framingham, Massachusetts), recently organized to reclaim rubber, are reported to be doing a good business, producing a high grade of goods by special processes.

TRADE NEWS NOTES.

THE directors of the Boston Woven Ho. and Rubber Co. have declared the regular semi-annual dividend of \$1 per share on the preferred stock, payable June 15, 1907, to stockholders of record June 5.

At the annual meeting of the shareholders of the Consolidated Rubber Tire Co. (New York) at the registered offices of the company, at Jersey City, New Jersey, on May 6, the board of directors was re-elected, and no change was made subsequently in the list of officers.

Rubber manufacturers are likely to be interested in the subject of lubricating materials for machinery, as treated very fully by Professor W. E. M. Goss, in a booklet entitled "A Study in Graphite," including the results of numerous comprehensive tests, and published by Joseph Dixon Crucible Co., Jersey City, New Jersey.

Joseph Hollins, Bathurst street, Toronto, has been appointed agent for David Bridge & Co., makers of india-rubber machinery, of Castleton, Manchester, England.

A new treasury department regulation permits the allowance of a "drawback" on the exportation of asbestos packings made by the H. W. Johns-Manville Co. (New York), with the use of asbestos cloth, equal in amount to the duty paid on the imported material used, less the legal deduction of 1 per cent.

The Stamford (Connecticut) Manufacturers' Association is interesting itself in insurance rates on local factory property. The president of the association is Edward Sawyer, president of the Atlantic Insulated Wire and Cable Co., and the secretary-treasurer is William F. Gillespie, manager of the Stamford Rubber Supply Co.

The Baltimore Stamp and Stencil Trade Association has been organized, with a view to establishing and adhering to a uniform price for staple goods in the lines of rubber stamps, stencils, and other like products. The association started with seven Baltimore firms enrolled as members.

A quarterly dividend of 1½ per cent. on the preferred shares of the Manufactured Rubber Co. is payable on June 1.

The Diamond Rubber Co. (Akron, Ohio), whose purchase of the Bryant Steel Wheel and Rim Co. (Columbus, Ohio) has been reported in these pages, are erecting a building at Akron to which the rim factory will be removed.

The regular quarterly dividend of 1¾ per cent. on the preferred shares of the Rubber Goods Manufacturing Co. is payable on June 15. The amount of such shares outstanding is \$10,351,200, of which all but about \$3,000,000 are held in the treasury of the United States Rubber Co.

A certificate has been filed with the secretary of state of New York announcing the voluntary dissolution of the Michelin Products Selling Co. (incorporated January 10, 1900), their business as representative in America of Michelin et Co., the tire manufacturers, having been succeeded by that of E. Lamberjack & Co., Incorporated, of New York.

The Globe Mills Rubber Co. (Lawrence, Massachusetts) are extending their production. Among their specialties is a line of arcies which are referred to as being both excellent in quality and low in price.

The Hyde Park Rubber Co. (Hyde Park, Massachusetts), proofers of cloth for the trade, are reported busy, having suffered no setback from the fire in their factory in March.

The heels and soles and other specialties made by the B. & R. Rubber Co. (North Brookfield, Massachusetts) have met with a demand that is keeping the factory fully employed, although it is one of the newest in the field.

The Andover Rubber Co. (Andover, Massachusetts) are now well under way turning out a line of seamless goods. They have a well arranged and equipped plant with everything new, and President Matthew S. Hannan is an experienced man in this branch of the industry.

TRADE NEWS NOTES.

The Woonsocket Rubber Co. (Woonsocket, Rhode Island) have sold a tract of land on Fairmount street, adjoining their plant, to Jules Desurmont et fils, important hosiery manufacturers at Turcoing, France, who are erecting a factory on it. The deeds transferring the property were signed on March 28, covering 172,175 square feet of land.

The sale of the "Ball Band" rubber fastener is controlled exclusively by Dunham Brothers (Brattleboro, Vermont) in the New England States, Greater New York and Canada, east of the Ottawa river.

The American Dunlop Tire Co. is seldom mentioned by name now that it has become subsidiary to a larger company, but that the corporation still exists is indicated by the recording, in a New York court, of a judgment in its favor for \$1,027.

Messrs. James and Humphrey O'Sullivan, of the O'Sullivan Rubber Co. (Lowell, Massachusetts) started recently on a six months' business tour of the country to extend as far as the Pacific Coast.

The Garlock Packing Co. (Elmira, New York) now have offices in all the States in the Australian commonwealth.

The "Bullet Proof" duck lumbermen's line of the American Rubber Co., with the red label, has a great reputation for toughness.

E. Bers & Co. have discontinued their Western branch and all their business in rubber scrap in future will be transacted through the Philadelphia office.

President Colt, of the Woonsocket Rubber Co., recently sent a substantial check to the baseball team of the "Alice" mill of that company—the team which last year won the championship in the league of clubs representing the various factories at Woonsocket.

A feature of a recent "ladies' night" given by the Springfield Automobile Club was a theater party. Those attending it were invited, after the play, to a supper tendered by the Fisk Rubber Co. at the Worby Hotel. The special theater program on this occasion was an artistic production of the advertising department of The Fisk Rubber Co.

M. P. Billingham, who has opened offices at No. 114 Liberty street, New York, as consulting engineer to the india-rubber trade—planning and reconstructing factories and designing machinery—brings to his new field a practical experience gained through several years' connection with two of the most important rubber machinery firms in the country.

The Textile-Finishing Machinery Co. (Providence, Rhode Island) have removed their general offices to the Howard building Entrance room 321.

An importation at New York of gallalith in sheets was assessed for duty as 20 per cent *ad valorem*—the rate for "unenumerated manufactured articles"—which was protested against, on the ground that the rate should have been 10 per cent, as a raw material not enumerated in the Tariff act. The appraisers held that, while gallalith in blocks or sheets was the crudest form in which it could be imported, it was properly dutiable at 20 per cent.

Regarding the rubber rollers made by the American Wringer Co. (New York) for rotary lithographic presses, the Brett Lithographing Co. write: "Their printing qualities are quite as good as the 'leather' rollers, and there are several distinct advantages, the rollers being perfectly true, the ink is better distributed, the fountain is set more easily and quickly, and less color is used, and much time is saved in washing up."

William J. Sturges has resigned the position of secretary of the Seward Rubber Co. (Berlin, Connecticut).

Every tire manufacturer is on the outlook for tires of his production which have been run for long distances. The record to date, it appears, is held by the Diamond Rubber Co., one of

whose customers, in Rhode Island, claims to have used a tire on 30,500 miles of road without any repairs.

Mr. H. F. Siegrist, formerly treasurer of the Swinehart Clincher Tire and Rubber Co. (Akron, Ohio), has left the concern and is succeeded by Mr. Frederick Boron. By the way, Mr. James A. Swinehart, who has been in Europe for a month or more, has just returned after having had a most successful business trip so far as Swinehart tires are concerned. The company are adding new machinery to their plant, which will enable them to increase their output one-third.

New York has still another place where tires may be repaired—The Michelin Tire Repair Works, at No. 242 West Forty-first street, run by Mr. F. D. Fable, an expert in tire manufacture and repair.

PERSONAL MENTION.

DR. ALLEN HOLMAN SUGGETT, of California, has returned lately from an extensive visit to the rubber plantations in Ceylon and the Federated Malay States, preparatory to devoting his attention entirely in future to rubber planting in Mexico, where he is a director in two companies—the Chiapas Rubber Plantation Co. and the Rio Michel Rubber Plantation Co. Dr. Suggett reports that in consequence of his observations abroad he is even more hopeful of the rubber planting outlook in Mexico.

UNITED STATES RUBBER CO.—AUDITOR'S CERTIFICATE.

WE have examined the books and accounts of the United States Rubber Co. and its subsidiary companies for the year ended March 31, 1907, and

We hereby certify that the accompanying consolidated general balance sheet and consolidated statement of income and profit and loss agree with the books of the companies, and correctly set forth the financial condition of the companies on March 31, 1907, and the results of their operations for the last fiscal year, and

That on that date the quick assets of the United States Rubber Co. and its subsidiary companies, including inventories of raw materials and manufactured goods on hand, exceeded all the liabilities other than capital stock and surplus accounts to the extent of \$12,400,220.29.

HASKINS & SELLS, Certified Public Accountants.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending on the dates appearing in the table below:

COMMON STOCK.

Week	April 27	Sales	400 shares	High	43	Low	42 ¹ / ₂
Week	May 4	Sales	735 shares	High	103 ¹ / ₄	Low	102
Week	May 11	Sales	200 shares	High	72 ³ / ₄	Low	72
Week	May 18	Sales	1010 shares	High	41	Low	40
Week	May 25	Sales	4710 shares	High	40	Low	37

For the year—High 52¹/₂, Feb. 16; Low 36³/₈, Mar. 26.

FIRST PREFERRED STOCK.

Week	April 27	Sales	735 shares	High	103 ¹ / ₄	Low	102
Week	May 4	Sales	510 shares	High	102 ⁷ / ₈	Low	101 ⁷ / ₈
Week	May 11	Sales	3177 shares	High	102 ³ / ₄	Low	99 ¹ / ₂
Week	May 18	Sales	750 shares	High	100 ³ / ₄	Low	100 ¹ / ₂
Week	May 25	Sales	4108 shares	High	100 ¹ / ₂	Low	99 ¹ / ₂

For the year—High 100³/₄, Jan. 7; Low 99¹/₂, Mar. 25.

SECOND PREFERRED STOCK.

Week	April 27	Sales	200 shares	High	72 ³ / ₄	Low	72
Week	May 4	Sales	735 shares	High	72 ³ / ₈	Low	71 ¹ / ₂
Week	May 11	Sales	200 shares	High	72 ¹ / ₄	Low	72 ¹ / ₂
Week	May 18	Sales	100 shares	High	72 ¹ / ₄	Low	72 ¹ / ₄
Week	May 25	Sales	1400 shares	High	71 ⁷ / ₈	Low	68

For the year—High 78¹/₈, Jan. 7; Low 68, Mar. 25.

At the end of March, Professor Emilio A. Galdi, PH.D., retired from the position of director of the Museu Galdi (the state museum at Pará), and returned to Europe. He has been succeeded by Jacques Huber, PH.D., for many years chief of the botanical section at the museum, and the author of a number of contributions to our knowledge of the rubber species of the Amazon regions.

Review of the Crude Rubber Market.

ARRIVALS of rubber for the month of May 1907, from May 1 to the 28th, 29,029 and 2,340 tons, making a total of 31,369 tons for the whole of May last year and 2,290 tons for the same month in 1905. Total arrivals for the crop year, ending June 30, 1907, are likely to exceed the preceding year's output by 20,000 tons or more, or about 6 per cent. The following table may be of some interest for comparison:

PARA ARRIVALS—RUBBER AND CAUCHO—IN TONS.

	1903-04	1904-05	1905-06	1906-07
To December 31,	13,470	13,300	14,900	14,720
To March 31,	25,480	27,210	28,020	27,100
To May 31,	29,080	31,500	32,840	33,620
To June 30,	30,580	33,000	34,400	

[a. To May 28, 1907.]

Such an increase alone would not be sufficient to account for the decline in prices which was in progress for some time past, and has reached a lower level at this writing than has been recorded since the autumn of 1904. The crop year ending June 30, 1905, showed an increase of 82 per cent. over the preceding year, but this did not prevent an unprecedented high range of prices, which prevailed for an unusually long period. The normal condition in the Amazon region is a constantly increasing production, and the general condition in the consuming markets has been a rising price level. The increasing rate of production, measured by Para exports, has been, during three periods of five years, as follows:

Five years, 1892-93—1896-97, Average 19,000 tons.
Five years, 1897-98—1901-02, Average 20,380 tons.
Five years, 1902-03—1906-07, Average 33,470 tons.

Fifteen years ago, at this date, THE INDIA RUBBER WORLD quoted fine new Para at 70 cents. Meanwhile the Amazon output has doubled, and at times the then price has nearly doubled. Clearly the amount produced alone does not decide prices, but the pressure of demand for consumption has to be considered, and this it is more difficult to measure with accuracy or promptness. But such a decline as has now to be recorded is evidence of lessened activity somewhere.

An interesting feature of the market is the steady advance which has been seen in the prices of Africans as compared with Para grades. Referring again to a period 15 years ago, the highest New York quotation for any African sort was 55 cents (for pinky Madagascar), and most of other Africans were selling at less than 40 cents. The best Africans have long been above the \$1 level, and Paras may yet lose the position of primacy as regards prices.

New York quotations:

Para,	June 1, '06.	May 1, '07	May 29,
Islands, fine, new,	120 a 121	115 a 116	110 a 111
Islands, fine, old,	none here	none here	none here
Upriver, fine, new,	124 a 125	117 a 118	112 a 113
Upriver, fine, old,	125 a 126	119 a 120	114 a 115
Islands, coarse, new,	64 a 65	67 a 68	62 a 63
Islands, coarse, old,	none here	none here	none here
Upriver, coarse, new,	60 a 61	61 a 62	57 a 58
Upriver, coarse, old,	none here	none here	none here
Caucho (Peruvian) sheet 72,	72 a 73	73 1/2 a 74	71 a 72
Caucho (Peruvian) ball 84,	84 a 85	85 a 87	83 a 84
Ceylon, fine, sheet,	150	135 a 136	134 a 135

AFRICANS.

Sierra Leone, 1st quality,	97 a 98	Lopori ball, prime,	103 a 107
Massai, red,	97 a 98	Lopori strip, prime,	98 a 99
Benguella,	75 a 76	Madagascar, pinky,	85 a 86
Tangeroon ball,	76 a 77	Ikolamba,	none here
Accra flake,	10 a 20	Sondan nuggets,	100 a 91

CENTRALS.

Esmeralda, sausage,	85 a 86	Mexican, scrap,	80 a 87
Guayaquil, strip,	70 a 71	Mexican, slab,	64 a 65
Nicaragua, scrap,	83 a 84	Mangabeira, sheet,	56 a 68
Panama, slab,	65 a 66	Guayule,	47 a 48

NEW YORK.	1904	1905	1906	1907
Islands, fine, new,	120	115	110	110
Islands, fine, old,	124	117	112	112
Islands, coarse, new,	64	67	62	62
Islands, coarse, old,	60	61	57	57
Upriver, fine, new,	124	117	112	112
Upriver, fine, old,	125	119	114	114
Upriver, coarse, new,	64	67	62	62
Upriver, coarse, old,	60	61	57	57

NEW YORK RUBBER PRICES—May 29, 1907.

	1907	1906	1905	1904
Upriver, fine,	\$1 15 a \$1 18	\$1 25 a \$1 28	85 a 88	\$1 34
Upriver, coarse,	94 a 94	92 a 95	80 a 82	94
Islands, fine,	114 a 116	112 a 117	77 a 80	113
Islands, coarse,	68 a 68	70 a 74	77 a 77	77
Caucha,	71 a 72	70 a 70	70 a 70	80

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			LONDON.		
	Fine and Medium	Coarse	Total	1907	1906	1905
Stocks, March 31,	105	20	125	305	343	343
Arrivals, April,	1241	914	1855	759	1422	—
Aggregating,	1346	934	1680	1154	1765	—
Deliveries, April,	1110	593	1703	768	1154	—
Stocks, April 30,	236	41	277	386	611	—

	PARA			ENGLAND		
	1907	1906	1905	1907	1906	1905
Stocks, Mar. 30,	985	130	820	810	995	275
Arrivals, April,	3290	1900	1420	1195	1150	930
Aggregating,	4215	2930	2240	1975	2955	1205
Deliveries, April,	3735	1700	1753	1025	775	850
Stocks, April 30,	510	207	496	950	1280	355

	1907	1906	1905
World's visible supply, April 30,	3,487	3,282	2,493
Para receipts, July 1 to April 30,	28,045	26,104	24,970
Para receipts Caucho, same dates,	5,075	4,355	4,304
Afloat Para to United States, April 30,	198	749	139
Afloat from Para to Europe, April 30,	970	600	805

Plantation Rubber From The Far East.

WEEKLY CEYLON EXPORTS

	Pounds	Total, 1907	Pounds.
Jan. 1 to March 4,	50,000		93,828
Week ending Mar. 11,	5,000	Same dates, 1906	62,615
Week ending Mar. 18,	8,858	Same dates, 1905	30,553
Week ending Mar. 25,	2,420	Same dates, 1904	24,062
2 weeks ending Apr. 8,	26,449		

NEW YORK REMARKS: Last week, on 30 March, 1907, the Ceylon rubber market was quiet. The total exports for the week ending March 25, 1907, were 24,062 pounds. The total exports for the week ending March 25, 1906, were 30,553 pounds. The total exports for the week ending March 25, 1905, were 24,062 pounds.

EXPORTS FROM THE STRAITS

PLANTATION Para shipped from Singapore, January 1 to February 29, 1907, 433 pounds; from Penang, to February 14, 9,897 pounds.

AT THE AUCTIONS.

LONDON, March 26.—Offerings were 21 1/2 tons of plantation rubber from the Straits and Malay States and 2 tons from Ceylon, mostly sold. The highest price was 5 11 1/2 [a 53 11 1/2] [a \$1 15] for 20 cases of fine block from Perak's Lander estate. Sales included 329 packages, averaging 50 6 1/2 [a \$1 34 1/2] pound, against 100 packages at 5 11 1/2 [a \$1 44] one year ago. Fine hard Para brought 55 [a \$ 21 2 1/2].

LONDON, April 26.—The largest quantity of plantation yet offered was seen at today's auction—892 packages, over 40 1/2

tons), of which 370 were sold. Forty-five cases very fine block from Lamudron estates brought 5s. 10¹/₂d. to 5s. 11d. [= \$1.44].

LONDON, May 10.—About 357 packages Ceylon and Malay plantation rubber (over 18 tons) offered and 158 sold. Quality a little disappointing. Some slight advances over the former sales were noted for good lots. The highest price realized was 5s. 8¹/₂d. [= \$1.38 1-3] for fine, pale crepe. Highest price one year ago, 6s. 2¹/₂d. [= \$1.50 1-2]. Para fine solid to-day at 4s. 9¹/₂d. [= \$1.16 1-4]; same period last year, 5s. 3¹/₂d. [= \$1.28 1-4]. Average price of Ceylon and Malay rubber to-day, 5s. 4¹/₂d. [= \$1.30 1-4]; one year ago, 5s. 11¹/₂d. [= \$1.41 1-2].

ANTWERP, March 21.—Straits Settlements biscuits sold for 15.50 francs [= \$1.35 3-4] per pound; crepe, 16.20 francs [= \$1.42]; Java plantation (*ticus*), various prices, up to 12.00 francs [= \$1.10].

Antwerp.

RUBBER STATISTICS FOR APRIL.

	1907	1906	1905	1904	1903
Stocks, Mar. 31 kilos.	725,538	641,050	323,945	700,735	271,884
Arrivals, April	304,873	302,109	651,928	170,098	605,743
Congo sorts	226,027	208,733	540,774	120,240	556,542
Other sorts	74,049	93,496	111,154	58,858	49,201
Aggregating	1,030,411	1,033,849	975,873	870,833	877,627

IMPORTS FROM PARA AT NEW YORK.

[By the *Frederick* Indicate Weight in Pounds.]

APRIL 26.—By the steamer *Grongeuse*, from Manaos and Para:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauch.	Total.
Poel & Arnold	334,000	115,400	105,400	34,000	588,800
General Rubber Co.	255,200	54,700	105,800	69,800	485,500
A. T. Morse & Co.	141,000	29,500	51,900	71,200	293,600
New York Commercial Co.	72,700	16,800	38,200	11,000	138,700
Neale & Co.	12,900	4,000	48,600	700	66,800
C. P. dos Santos	43,200	3,000	38,100	.....	64,900
Edmund Reeks & Co.	1,300	500	48,100	43,400	33,300
Hagemeyer & Brunn	13,500	1,000	15,500	.....	30,000
G. Amisack & Co.	5,000	.....	12,000	5,000	23,800
Total	859,800	229,700	434,500	206,000	1,729,000
MAY 3.—By the steamer <i>Benedict</i> , from Manaos and Para:					
Poel & Arnold	145,100	124,500	139,100	119,100	527,800
A. T. Morse & Co.	144,300	39,100	118,600	71,100	373,100
General Rubber Co.	51,000	21,700	62,800	43,700	179,200

PARA RUBBER VIA EUROPE.

	Pounds.
APR. 25.—By the <i>Deuts</i> —Hamburg:	
General Rubber Co. (Coarse)	33,500
Poel & Arnold (Fine)	7,000
APR. 26.—By the <i>Patricia</i> —Hamburg:	
General Rubber Co. (Fine)	10,000
A. T. Morse & Co. (Coarse)	3,500
MAY 1.—By the <i>Gedra</i> —Liverpool:	
New York Commercial Co. (Coarse)	11,500
Poel & Arnold (Coarse)	22,500
MAY 3.—By the <i>Coler</i> —London:	
Poel & Arnold (Coarse)	45,000
MAY 5.—By the <i>Caronia</i> —Liverpool:	
General Rubber Co. (Coarse)	88,000
Poel & Arnold (Coarse)	4,500
MAY 6.—By the <i>Acta</i> —New York:	
Poel & Arnold (Coarse)	24,500
MAY 7.—By the <i>Centa</i> —Liverpool:	
New York Commercial Co. (Fine)	23,000
A. T. Morse & Co. (Fine)	6,000
MAY 9.—By the <i>Walden</i> —Hamburg:	
Poel & Arnold (Fine)	7,000
MAY 11.—By the <i>St. Iona</i> —London:	
Poel & Arnold (Coarse)	45,000
MAY 13.—By the <i>Domine</i> —Liverpool:	
Poel & Arnold (Fine)	6,500
Poel & Arnold (Coarse)	8,000
MAY 15.—By the <i>Crimina</i> —Liverpool:	
General Rubber Co. (Coarse)	11,500
Robinson & Stiles (Fine)	7,000

OTHER ARRIVALS AT NEW YORK.

	Pounds.
APR. 1.—By the <i>Ida</i> —Galveston:	
Continental Mexican Rubber Co.	36,000

Sales in April	568,838	153,391	339,008	438,212	388,838
Stocks, April 30	491,573	880,458	635,875	441,021	488,799

Arrivals s'ce Jan. 1, 1907	1,037,631	2,071,689	1,932,955	1,816,000	1,751,871
Congo sorts	1,381,092	1,573,515	1,542,868	1,443,046	1,505,539
Other sorts	250,539	498,174	390,087	372,954	246,332

Sales since Jan. 1, 1907	1,834,242	1,926,418	1,838,441	1,689,179	1,921,177
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The Antwerp inscription sale in May resulted in a decline of about 3 cents per pound.

Rubber Scrap Prices.

New York quotations—prices paid by consumers for carload lots, per pound—are higher again:

Old rubber boots and shoes—domestic	12 @ 12 ¹ / ₂
Old rubber boots and shoes—foreign	10 ³ / ₄ @ 11
Pneumatic bicycle tires	7 ¹ / ₂ @ 7 ³ / ₄
Automobile tires	9 ⁷ / ₈ @ 10
Solid rubber wagon and carriage tires	10 @ 10 ¹ / ₄
White trimmed rubber	12 ¹ / ₂ @ 12 ³ / ₄
Heavy black rubber	5 ³ / ₄ @ 6
Air brake hose	4 ³ / ₄ @ 5
Fire and large hose	3 ⁵ / ₈ @ 3 ³ / ₄
Garden hose	2 ¹ / ₂ @ 2 ³ / ₄
Matting	1 ¹ / ₂ @ 1 ⁵ / ₈

New York Commercial Co.	24,400	5,700	15,000	2,100	48,100
C. P. dos Santos	15,000	1,100	17,200	.....	33,300
Hagemeyer & Brunn	12,100	.....	19,800	.....	31,900
Edmund Reeks & Co.	3,000	700	9,200	.....	13,500
Neale & Co.	1,100	400	8,600	.....	10,100
Total	399,600	189,200	391,200	172,000	1,149,000
MAY 15.—By the steamer <i>Cearuse</i> , from Manaos and Para:					
Poel & Arnold	100,300	12,400	116,000	12,800	241,500
A. T. Morse & Co.	38,100	22,700	92,000	67,200	220,000
General Rubber Co.	53,200	15,100	28,300	61,000	158,500
New York Commercial Co.	101,200	12,700	24,200	12,500	150,600
Edmund Reeks & Co.	6,000	800	26,400	.....	33,200
Hagemeyer & Brunn	12,100	.....	14,500	.....	26,600
C. P. dos Santos	11,400	700	5,000	.....	18,000
Neale & Co.	3,200	1,400	6,600	.....	11,200
Total	334,500	65,800	308,800	154,400	863,500

[NOTE.—The *Gregory* was due at New York May 26 with 300 tons para and 95 tons cauch. The *Dunstan* is due June 3 with 295 tons para and 70 tons cauch.]

CENTRALS—Continued.

APR. 24.—By the <i>Pretoria</i> —Hamburg:	
Poel & Arnold	22,500
APR. 24.—By the <i>Trans</i> —Caribbean, etc.:	
G. Amisack & Co.	1,500
Meyer Hecht	1,000
Strobel Bros.	1,000
Escobar & Gorgeza	1,000
APR. 25.—By the <i>Camaguey</i> —Tampico:	
New York Commercial Co.	20,000
Edward Maurer	25,000
A. T. Morse & Co.	11,000
APR. 25.—By the <i>Colon</i> —Colon:	
Hirzel, Feltman & Co.	8,000
Dumarest Bros.	3,500
Pablo Colvett Co.	2,500
G. Amisack & Co.	1,500
F. Branden & Bros.	1,500
L. Johnson & Co.	1,000
Roldan & Van Sickle	1,000
Piza Nephews Co.	1,000
H. Marquardt & Co.	1,000
APR. 27.—By the <i>Manchester</i> —Hamburg:	
Poel & Arnold	15,000
A. Hirsch & Co.	4,500
A. T. Morse & Co.	3,500
APR. 27.—By the <i>Esperanza</i> —Frontera:	
Harburger & Stack	15,000
E. Steiger & Co.	10,000
H. Marquardt & Co.	4,000
New York Commercial Co.	2,500
W. L. Wadleigh	1,500
G. Amisack & Co.	1,000
APR. 29.—By the <i>Patricia</i> —Hamburg:	
Poel & Arnold	22,500
APR. 29.—By the <i>Pigallanca</i> —Tampico:	
Edward Maurer	55,000
New York Commercial Co.	22,500
MAY 2.—By the <i>Advance</i> —Colon:	
Mann & Emdon	6,000

CENTRALS—Continued.

Hirzel, Feltman & Co.	5,500
Aramburo Co.	2,500
Dreyfuss & Mayo	2,500
H. Marquardt & Co.	2,000
Canen's Sons	2,500
Wessels, Kulenkamp Co.	1,500
Ados Santos & Co.	2,000
Andreas & Co.	1,500
G. Amisack & Co.	1,500
Kunhardt & Co.	1,000
E. B. Strout	1,000
L. Branden & Bros.	1,000
MAY 4.—By the <i>El Sud</i> —New Orleans:	
Manhattan Rubber Mfg. Co.	22,500
MAY 4.—By the <i>Mexico</i> —Frontera:	
Harburger & Stack	6,000
Strube & Ulze	5,000
E. Steiger & Co.	2,000
New York Commercial Co.	2,000
MAY 6.—By the <i>El Mar</i> —Galveston:	
Continental Mexican Rubber Co.	70,000
MAY 6.—By the <i>Panama</i> —Colon:	
H. Marquardt & Co.	4,000
G. Amisack & Co.	3,000
Dumarest Bros.	2,500
L. Branden & Bros.	3,500
Hirzel, Feltman & Co.	2,000
Roldan & Van Sickle	1,500
L. Johnson & Co.	1,000
MAY 6.—By the <i>Comanc</i> —Bahia:	
Poel & Arnold	47,500
J. H. Rosshack & Bros.	9,000
A. Hitch & Co.	6,000
New York Commercial Co.	4,000
A. Hirsch & Co.	2,500
MAY 6.—By the <i>Momus</i> —New Orleans:	
A. T. Morse & Co.	15,000
Rotholz	5,000
MAY 6.—By the <i>Bayamo</i> —Tampico:	
Edward Maurer	60,000

CENTRALS—Continued.

New York Commercial C. Co.	2,500	84,000
H. Marquardt & Co.	4,000	
May 8. By the <i>El Dorado</i> —Galveston:		
Continental Mexican Rubber Co.	11,500	
May 8. By the <i>Progreso</i> —San Pedro de Macoris:		
I. Brandon & Bros.	2,000	
Andrews & Co.	1,500	
United Fruit Co.	1,500	
Graham, Hinkley & Co.	1,000	
G. J. Fajardo	1,000	70,000
May 11. By the <i>Monterrey</i> —Mexico:		
Harburger & Stack	7,000	
E. Steiner & Co.	2,500	
H. Marquardt & Co.	3,500	
I. Kubie & Co.	2,500	
New York Commercial C. Co.	2,000	17,500
May 13. By the <i>El Dorado</i> —Galveston:		
Continental Mexican Rubber Co.	22,500	
May 15. By the <i>Pennsylvania</i> —Hamburg:		
Poel & Arnold	28,000	
May 15. By the <i>El Dorado</i> —Galveston:		
Continental Mexican Rubber Co.	35,000	
May 15. By the <i>Siberia</i> —Colombia, etc.:		
G. Amisnick & Co.	5,000	
Kunhardt & Co.	3,000	
Aramburu	1,500	
A. M. Capen's Sons	1,500	
A. dos Santos	1,500	
Dumatest Bros.	1,000	13,500
May 16. By the <i>Santiago</i> —Lampico:		
Edward Maurer	62,000	
Poel & Arnold	22,500	
New York Commercial C. Co.	22,500	
A. T. Morse & Co.	3,000	
H. Marquardt & Co.	3,000	
Harburger & Stack	2,000	118,000
May 17. By the <i>Progreso</i> —New Orleans:		
A. T. Morse & Co.	4,000	
Manhattan Rubber Mfg. Co.	2,000	
A. N. Rotholz	2,000	
G. Amisnick & Co.	1,500	10,500
May 20. By the <i>Merita</i> —Vera Cruz:		
Mexican Products Co.	2,500	
Harburger & Stack	2,500	
American Trading Co.	1,500	
Thebaud Bros.	1,000	
E. Steiner & Co.	1,000	8,500
May 27. By the <i>Emme</i> —Cien:		
Hirzel, Feitman & Co.	5,000	
Dumatest Bros.	4,500	
E. B. Strout	4,000	
G. Amisnick & Co.	4,000	
Aramburu	3,000	
Pablo Calvet Co.	3,000	
New York Commercial C. Co.	3,000	
Mann & Fendler	3,000	
Roldan & Van Sickle	2,500	
H. Marquardt & Co.	1,500	
I. Brandon & Bros.	1,500	
De Lima & Cortes	1,500	
Andean Trading Co.	1,000	
L. Johnson & Co.	1,000	
W. R. Grace Co.	1,000	40,000
May 20. By the <i>Imperial</i> —Hamburg:		
Poel & Arnold	13,500	
May 20. By the <i>Young</i> —Bahia:		
Poel & Arnold	28,000	
American Commercial C. Co.	22,500	
J. H. Rosshack & Bros.	15,000	
A. Hirsch & Co.	2,500	
New York Commercial C. Co.	2,500	77,000
May 21. By the <i>El Dorado</i> —Galveston:		
Continental Mexican Rubber Co.	22,500	
May 21. By the <i>Crozier</i> —Lampico:		
Edward Maurer	17,000	
Poel & Arnold	12,500	65,000
May 22. By the <i>El Dorado</i> —Galveston:		
G. Amisnick & Co.	2,000	
A. M. Capen's Sons	2,000	
Kunhardt & Co.	2,000	
Aramburu	2,000	
Roldan & Van Sickle	1,000	
Mecke & Co.	1,000	10,000
May 23. By the <i>El Dorado</i> —Galveston:		
Continental Mexican Rubber Co.	22,500	

AFRICANS

Apr. 4. By the <i>Progreso</i> —Hamburg:		
George A. Alden & Co.	11,500	
Apr. 17. By the <i>Imperial</i> —Liverpool:		
A. T. Morse & Co.	11,500	
General Rubber Co.	9,000	
Livesey & Co.	11,500	
Henry A. Gould Co.	4,000	36,500
Apr. 24. By the <i>Imperial</i> —Hamburg:		
Poel & Arnold	33,000	
Apr. 27. By the <i>Imperial</i> —Havre:		
A. T. Morse & Co.	15,000	

AFRICANS—Continued.

Apr. 27. By the <i>Manchester</i> —Hamburg:		
Poel & Arnold	45,000	
Rubber Trading Co.	7,000	
W. T. Gough Co.	11,500	63,000
Apr. 27. By the <i>Progreso</i> —Hamburg:		
Poel & Arnold	8,000	
A. T. Morse & Co.	9,000	
George A. Alden & Co.	3,000	
Apr. 30. By the <i>Imperial</i> —Havre:		
General Rubber Co.	11,500	
W. T. Gough Co.	22,500	137,500
May 1. By the <i>Imperial</i> —Antwerp:		
Poel & Arnold	28,000	
General Rubber Co.	3,000	
A. T. Morse & Co.	3,000	39,000
May 1. By the <i>Imperial</i> —Liverpool:		
George A. Alden & Co.	11,000	
Poel & Arnold	22,000	
A. W. Brunm	5,000	
W. T. Gough Co.	3,000	41,000
May 1. By the <i>Imperial</i> —Liverpool:		
General Rubber Co.	9,000	
Rex Products Co.	10,000	
Livesey & Co.	7,000	
A. W. Brunm	3,000	118,000
May 3. By the <i>Imperial</i> —Liverpool:		
George A. Alden & Co.	17,000	
Poel & Arnold	10,000	
Livesey & Co.	7,000	40,000
May 6. By the <i>Imperial</i> —Hamburg:		
Poel & Arnold	13,500	
W. T. Gough Co.	7,000	
Rubber Trading Co.	5,500	26,000
May 6. By the <i>Imperial</i> —Liverpool:		
General Rubber Co.	11,000	
May 6. By the <i>Imperial</i> —London:		
General Rubber Co.	52,000	
May 6. By the <i>Imperial</i> —Hamburg:		
A. T. Morse & Co.	20,000	
Rubber Trading Co.	11,500	
George A. Alden & Co.	3,500	
W. T. Gough Co.	5,000	40,000
May 7. By the <i>Imperial</i> —Liverpool:		
George A. Alden & Co.	30,000	
A. T. Morse & Co.	7,000	43,000
May 9. By the <i>Imperial</i> —Liverpool:		
Livesey & Co.	11,000	
George A. Alden & Co.	11,000	
Poel & Arnold	8,500	29,500
May 10. By the <i>Imperial</i> —Hamburg:		
Poel & Arnold	15,000	
George A. Alden & Co.	11,000	
General Rubber Co.	5,000	31,000
May 10. By the <i>Imperial</i> —London:		
General Rubber Co.	95,000	
George A. Alden & Co.	22,000	
Poel & Arnold	22,000	
May 10. By the <i>Imperial</i> —London:		
Poel & Arnold	11,500	
May 13. By the <i>Imperial</i> —Antwerp:		
Poel & Arnold	60,000	
May 13. By the <i>Imperial</i> —Antwerp:		
George A. Alden & Co.	50,000	
Poel & Arnold	65,000	
Joseph Calvet Co.	35,000	
General Rubber Co.	55,000	
A. T. Morse & Co.	25,000	
Rubber Trading Co.	30,000	
W. T. Gough Co.	5,000	290,000
Raw Products Co.	3,500	
May 14. By the <i>Imperial</i> —Liverpool:		
General Rubber Co.	32,000	
Livesey & Co.	15,000	
Poel & Arnold	7,000	54,000
May 14. By the <i>Imperial</i> —Hamburg:		
W. T. Gough Co.	16,000	
A. T. Morse & Co.	13,000	
Poel & Arnold	5,000	35,000
May 15. By the <i>Imperial</i> —London:		
General Rubber Co.	11,500	
May 15. By the <i>Imperial</i> —Liverpool:		
A. T. Morse & Co.	11,500	
Livesey & Co.	3,500	15,000

FAST INDIAN

Apr. 24. By the <i>Hicks</i> —Singapore:		
Poel & Arnold	14,000	
Joseph Cantor	20,000	
A. T. Morse & Co.	5,000	42,000
Apr. 25. By the <i>Imperial</i> —London:		
Robinson & Stiles	8,000	

ASIAN INDIAN—Continued.

Apr. 27. By the <i>Kribbenfeld</i> —Colombo:		
A. T. Morse & Co.	11,500	
May 1. By the <i>Imperial</i> —London:		
George A. Alden & Co.	11,500	
May 1. By the <i>Imperial</i> —Liverpool:		
Raw Products Co.	11,500	
May 6. By the <i>Imperial</i> —Colombo:		
A. T. Morse & Co.	7,000	
May 6. By the <i>Imperial</i> —London:		
Robinson & Stiles	11,500	
May 9. By the <i>Imperial</i> —Singapore:		
Joseph Cantor	20,000	
A. T. Morse & Co.	9,000	
Walter & Stiles	11,500	40,000
May 11. By the <i>Imperial</i> —Singapore:		
George A. Alden & Co.	11,500	
Poel & Arnold	11,500	37,000
May 14. By the <i>Imperial</i> —London:		
General Rubber Co.	9,000	
Robinson & Stiles	11,500	
George A. Alden & Co.	2,000	22,500
May 20. By the <i>Imperial</i> —London:		
George A. Alden & Co.	7,000	
Robinson & Stiles	7,000	14,000
* Denotes Plantation Grades (Balance Assam, Borneo and Java).		

GUTTA-FELTONG

Apr. 24. By the <i>Hicks</i> —Singapore:		
George A. Alden & Co.	37,500	
W. T. Gough Co.	17,500	
Heahler & Co.	2,000	
H. Paul & Co.	11,000	50,000
May 9. By the <i>Imperial</i> —Singapore:		
H. Paul & Co.	33,000	
George A. Alden & Co.	20,000	
L. Littlejohn & Co.	35,000	
Heahler & Co.	75,000	
W. T. Gough Co.	20,000	270,000
May 13. By the <i>Imperial</i> —Singapore:		
L. Littlejohn & Co.	15,000	
D. A. Shaw & Co.	15,000	
A. W. Brunm	15,000	
Heahler & Co.	15,000	
George A. Alden & Co.	15,000	
W. T. Gough Co.	15,000	
Intercontinental	22,500	121,500

GUTTA-PERCHA

May 6. By the <i>Imperial</i> —Hamburg:		
Robert Soltan Co.	7,000	
May 9. By the <i>Imperial</i> —Singapore:		
George A. Alden & Co.	4,500	
May 10. By the <i>Imperial</i> —Hamburg:		
Robert Soltan Co.	22,000	
May 13. By the <i>Imperial</i> —Singapore:		
Heahler & Co.	22,500	
May 20. By the <i>Imperial</i> —Hamburg:		
Robert Soltan Co.	7,500	

BALATA

Apr. 27. By the <i>Kribbenfeld</i> —Demarara:		
Frame & Co.	2,000	
Middleton & Co.	9,000	
A. T. Morse & Co.	4,000	
George A. Alden & Co.	4,000	37,000
May 9. By the <i>Imperial</i> —Havre:		
C. P. dos Santos & Co.	6,000	
May 14. By the <i>Imperial</i> —London:		
Henry A. Gould Co.	11,500	
May 20. By the <i>Imperial</i> —Havre:		
Belvar	4,000	
Thebaud Bros.	4,000	
George A. Alden & Co.	11,500	
G. Amisnick & Co.	17,000	
May 22. By the <i>Imperial</i> —Demarara:		
George A. Alden & Co.	11,500	
Frame & Co.	5,000	
A. T. Morse & Co.	3,500	14,000

CUSTOM HOUSE STATISTICS.

Imports	Pounds	Value
India rubber	6,111,777	\$1,813,071
Balata	48,277	23,030
Gutta-percha	11,277	12,330
Gutta-liming	6,138,079	97,421
Total	12,219,410	\$1,945,852
Exports	Pounds	Value
India rubber	2,117	\$22,720
Balata	6,142	4,568
Reclaimed rubber	6,142	1,428
Rubber Scrap Imported	881,260	\$76,500



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JUNE 1, 1907.

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Liverpool.

The partnership between Mark Hydes and Oswald Latham as Hydes, Latham & Co., india-rubber merchants, Liverpool, having been dissolved, Mr. Hydes is returning to business as Mark Hydes & Co. at 28 Exchange street, East, Liverpool. Mr. Latham will continue in business at the location of the partnership firm, 46, Exchange buildings.

WILLIAM WRIGHT & Co. report [May 1]:

"The influence of heavy receipts prices have again de-

clined, and the market closes with a downward tendency. There has been a fair demand for delivery at current rates, but sellers are still acting cautiously. Whether the heavy receipts this month are at the expense of the two remaining months of the crop remains to be seen, but in our opinion the present break in prices presents a favorable opportunity to manufacturers for operating.

EDMUND SCHLUTER & Co. report [April 30]:

The market has been moderately active during April, with a fair trade demand. After a decline early in the month to 45, 100, for hard line, prices advanced to 48, 100. Subsequently the large receipts at the Amazon ports brought about a relapse. The arrivals from Brazil have been unexpectedly large and if they continue to be ample in May and June, speculations may not recover in the near future.

WORLD'S VISIBLE SUPPLY OF PARA, APRIL 30

	1907.	1906.	1905.	1904.	1903.	1902.
Tons.....	5157	4953	3217	2777	4310	4595
Prices, hard line 4 11 1/4 5 2 1/2 5 6 3/4 4 7 1/2 3 10 3/4 3 1 1/4						

LIVERPOOL STOCKS OF AFRICAN RUBBER

	1907.....	1906.....	1905.....	1904.....	1903.....	1902.....
382.....	531.....	792.....	898.....	473.....		
353.....	351.....					
355.....	538.....	1899.....				

Balata

EXPORTS from Ciudad Bolivar (Venezuela) in kilograms, as reported in *Der Treppenplanzer*:

In 1903.....	1,904,578	In 1905.....	1,322,315
In 1904.....	899,034	In 1906.....	1,232,148

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	8,890,642	406,391	8,493,251
January-February.....	14,910,576	672,611	14,237,965
Three months, 1907.....	23,810,218	1,070,002	22,731,216
Three months, 1906.....	19,007,624	982,559	18,115,065
Three months, 1905.....	20,412,435	728,348	25,684,087
GERMANY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	3,203,480	944,460	2,319,020
January-February.....	5,382,749	2,600,600	2,992,149
Three months, 1907.....	8,646,220	3,635,060	5,011,160
Three months, 1906.....	11,896,500	3,451,800	8,444,700
Three months, 1905.....	11,233,860	4,007,300	7,226,560
FRANCE.*			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	2,356,860	2,181,300	175,560
January-February.....	4,952,640	2,951,960	2,000,680
Three months, 1907.....	7,309,500	5,133,260	2,176,240
Three months, 1906.....	8,984,360	4,179,340	4,805,020
Three months, 1905.....	7,165,180	2,804,680	4,270,200
BELGIUM.†			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	1,489,754	1,295,745	194,009
January-February.....	3,310,760	1,792,854	1,520,906
Three months, 1907.....	4,800,514	3,088,599	1,720,915
Three months, 1906.....	5,708,573	2,821,909	2,886,664
Three months, 1905.....	4,205,913	3,000,040	1,204,973
GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1907.....	8,302,048	2,006,624	5,485,424
January-February.....	11,833,248	6,087,872	5,745,376
Three months, 1907.....	20,225,296	8,994,496	11,230,800
Three months, 1906.....	17,647,168	9,875,824	7,771,344
Three months, 1905.....	15,993,376	10,248,456	5,744,920

NOTE: German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce.

†Special Commerce.

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Trade Mark stamped in
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Vol. XXXVI. No. 4.

JULY 1, 1907.

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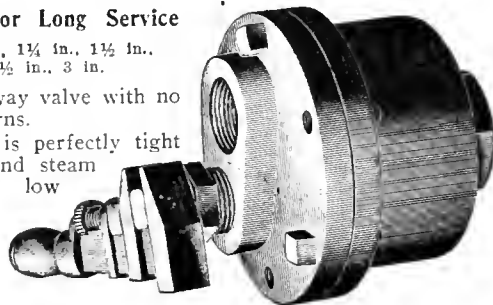
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WHEN TO BUY RUBBER.

SO far as we can learn, there is no dearth of raw rubber in the storerooms of the larger manufacturers. This can only mean that liberal purchases were made at prices which, at this writing, must be described as very high. Despite a constantly receding market, for several months past, the continual complaint of sellers of rubber has been that the trade will not buy. Did anybody ever see the trade fail to buy when it needed rubber? The highest prices ever reached in the market did not put an end to buying when rubber was needed in the industry.

The truth is that when rubber began to sag a few months ago from the exceptionally high prices which had prevailed so long there was a general activity on the part of buyers for consumption, with the result that the arrival of the lowest prices for three years past has not stimulated any greater activity. Manufacturers cannot afford to buy rubber at 25 cents a pound when they don't really need it. There have been heavier arrivals in the market during the past season than any one could have foreseen, either sellers or buyers, with the result that before the climax was reached most large manufacturers had their storerooms filled to unusual repletion. It may be that some of them wish they had waited for rubber at \$100 or \$200 a ton less, but so long as the industry is active the cost of the raw material is not the first consideration.

The main consideration at this time, we take it, is that

manufacturers should not let the low prices of their products, as a rule, lead them to sell for so many years, the moment that a renewed activity in buying manifests itself, and the market price of raw rubber are bound to rise again, and a rise is usually more rapid than a fall in raw rubber. Besides, this is a period between seasons, and a heavy production in one year is not necessarily followed by a heavy crop in the next year.

All of which leads up to the question of what is the best time to buy rubber, on a rising or a falling market? We cannot avoid the belief that the time to buy rubber is when the conditions of the trade point to its need, regardless of its price at the moment. The pursuance of any other course is a policy of speculation, and this is not consistent with the best interests of manufacturing.

ON MAKING BETTER TIRES.

SO long as automobile tires hold air they will leak air, and it is in the nature of things that they will avail themselves of every chance. One may hold the inventor in high or low regard, as one may elect, the patent office undoubtedly does reveal many evidences of what, to the established worker in the world, are mental aberrations. But what was Charles Goodyear, the discoverer of vulcanization, measured by this standard? And is it forgotten with what scorn Vanderbilt, the railroad king, repulsed young Westinghouse for presuming to stop railway trains "with wind"?

The pneumatic tire, as now developed to its utmost, is better than anything else known to man for equipping automobile wheels. But the weekly grind of the patent offices at Washington and London and Paris and Berlin is not to be laughed at, nevertheless. These institutions have registered in the past the notable inventions that measure what we call civilization, as compared with the usages of life when there were no patent offices. Every patent office gazette nowadays is burdened with the efforts of patent inventors to bring forth something in the way of a bandage for a swift running wheel that shall afford a maximum of resilience, while assuring a minimum of danger to the traveler.

We welcome with pleasure the concerted action of automobile manufacturers in America and France to arrive at the best sizes of pneumatic tires, as they now are, for the automobiles as the public now demands them. For what does A, or B, or C care who makes his tires, or how he makes them, so long as they render a service, for which he cheerfully pays whatever is charged? He asks simply that the tires will take him out, and home again, without accident.

Let the automobile associations go further, and strive to learn to what extent the automobile tire can be improved. A mere discussion of sizes means to determine what is best of the present attainments. And what is more, let Michelin and Goodrich and the Continental and

Dunlop join hands with the automobile societies and even strive to take the lead in seeking to develop tires which shall embody all the virtues which the patent offices of the world now show inventors to be attempting to bring into being.

MEXICO AND CEYLON.

THOSE of our friends who of late have been instituting comparisons between rubber planting conditions in Mexico and Ceylon may form mistaken conclusions if they fail to consider certain facts involved. We do not refer here so much to the different species under cultivation on the two sides of the globe, or to the different products to be derived, as to certain other general conditions, which are much more clearly understood now than at an earlier date.

The first rubber plantations in Ceylon were developed as a side issue on tea or cacao estates, each on a small scale, in connection with firmly established profit paying businesses. If the rubber should fail no great loss was incurred; the tea profits would continue. When the initial rubber propositions did prove successful, and practically all the tea planters concluded to go in for the new crop, the same policy was pursued; the tea or other crops are being relied upon to pay dividends until the rubber becomes productive. In many cases the rubber is expected to prove only an additional dividend paying crop, and the planting has been done, on many estates, practically without cost, from the reserve funds of well-established companies.

What has been the case in Mexico? American investors, far removed from the sphere of action, unacquainted with the tropics in any respect, have purchased government forest lands in advance of the opening of railways; their managers, who have required time to become acclimated, to learn the laws and customs and language of a foreign country, and to realize that planting there is different from what they have been accustomed to many hundreds of miles to the north—these men have undertaken to fell thousands of acres of primitive forests, to create new centers of population, to teach systematic industry to people constitutionally ignorant of it, and to create plantations without hope of return until the rubber shall come into bearing. Could there be a wider difference than from the conditions under which rubber planting was introduced in Ceylon?

We do not refer to the matter now by way of discouragement. But the difference should be kept in mind when results are compared. The shareholders in a Ceylon tea company whose rubber may have cost them nothing to date are elated at the sale of their first 1,000 pounds of rubber, as the earnest of 1,000,000 pounds per year at some time in the future—all "velvet." The Mexican company whose first 1,000 pounds of experimental rubber comes out have only that to show after the expenditure of \$1,000,000, let us say, and years of waiting, without

dividends from any source meanwhile. Is it any wonder that the Mexican growers should feel less enthusiastic?

But, after all, the main difference is that the Ceylon planters, as a rule, have had dividends all the while, and those in Mexico have not. So far as enterprise, the disposition to take risks, is concerned, the comparison favors the planters on this side of the ocean every time. And the fact that the original investors still hold their properties, whereas most of those in the Far East have sold out, is still in favor of the Americans.

We have only a word to add—that the rubber planters in Mexico cannot too soon take a lesson from the planters in Ceylon and the Malay States and form an association for their mutual advantage in further systematizing the management of their estates, particularly now that the period of harvesting is approaching and is likely to find some of them unprepared.

RUBBER FACTORY AND RUBBER FARM.

THE establishment of a rubber tire factory at Singapore means a great deal more than some people may think. When Charles Macintosh and Charles Goodyear and Thomas Hancock were born there was no Singapore—at least not to the knowledge of English speaking people. To-day it ranks among the great shipping ports of the world and all owing to English influences. All of which had nothing to do with rubber until there suddenly grew up within quick touch of that port the systematic culture of rubber—of Pará rubber, be it noted—on a scale which already affects the markets of New York and London.

The first rubber factory at Singapore is not on a large scale; one thing that counts is that it is promoted by a Dutch concern long interested in investments in the Far East, and it is no secret that the Dutch as a class have proved safe and sane investors. At the present rate of development Singapore will ere long be second as a rubber exporting port only to Pará, and all due to the growth of rubber on plantations under English and Dutch enterprise.

What has prompted these remarks is the assertion of the leading financial paper of London that the Singapore manufacturing enterprise will not amount to much until it owns a rubber plantation which will enable it to procure its raw material at an advantage as compared with the general market. This is precisely what we expect to see; if not the initial Singapore shop, at least other factories in the same part of the world that will grow their own rubber, just as a lead pencil factory company near the offices of THE INDIA RUBBER WORLD mine their own graphite and cut their own cedar.

The progress of countless industries in America has followed the inclusion in the program of great companies of the control of the raw materials used. We should not care to invest in the shares of a Singapore rubber

factory so long as it paid \$1.25 for rubber, if it produced the raw material at 25 cents it would be different.

Ultimately it will be in the natural order of things for a French or an English or an American rubber factory to produce its own rubber, just as it is to-day for one of these factories to make the cartons in which its products are packed for the market. So long as the raw material was drawn from the Amazon or from West Africa such a plan might have been impracticable, but that was before the days of systematic rubber production.

THE QUESTION OF COMPOUNDS.

EVERYBODY must know by this time that rubber goods are not made of rubber alone. Even the common garden automobilist understands that his high priced tires contain some kind of fabric, in connection with the rubber, to give strength to the pneumatic bandage of his wheels. And it is not so many years, measured by the average lifetime, that rubber belting and such like goods were advertised as "combination" goods, having reference to the cotton fiber which was embraced in order to provide the necessary element of strength. All of which prepares the public mind for the idea that rubber goods of whatever sort are "compounded"—whether with vegetable fibers, to add strength, or with mineral matters, to give the rubber, as in a tire tread, greater wearing capacity, and so on.

But what we now have in mind is not so much what the public have in mind—the public that in the end pass upon the whole question in hand, since the public ultimately pay the bills—but the question more intimately connected with the rubber factory itself. So many volumes of this or that rubber, as it comes from the crude rubber seller, and so many of the chemicals or drugs, whatever they may be called by the compounder, will produce, according to the rules of the trade, certain results. The question is whether the difference in the results justified the great number of different compounds or mixtures now shown on the books of many manufacturing concerns.

An order for a certain quantity of certain goods at a certain price calls, automatically, as things are now arranged, for a certain "mixture" of raw materials, which may be well enough if the run on this particular compound is to be long continued. But this is not always the case. May it not happen that, everything considered, the change from a high grade rubber to a lower grade to fill a particular order, if the total sum involved is not great, will mean more in costs than to keep the original compound in hand?

The tendency undoubtedly in America is to follow the European practice of producing a great variety of rubber goods under one management, and without any idea of inviting any comparison between American and foreign methods, we may suggest the propriety of considering whether it is necessary, every time a new order is booked, that a new requisition should be made upon the com-

ponential room. Within the African rubber plant, in the usual order of things, an unspeakable material worth only one-fourth or one-third the price of the lowest grade Para, there may have been reason for the utmost care that Para and African rubbers be kept apart in the compound rooms. But too much science has taught us that, within definable limits, rubber is rubber, and it is not so much the origin of the raw material as the intelligence and skill and honesty of the fabricator that counts, whether rubber from one part of the world or another is used. Without mentioning countries, we do know of manufacturers who have made fortunes through the use of a particular grade of raw rubber before its merits became generally known, simply through recognizing the value of a gum for its own sake, instead of measuring it by the reputation attaching generally to a rubber from a given quarter.

What we are leading up to is the idea of accepting rubbers by their merits, whether from America or Africa or Asia, without reference to what may have been the experience of a given factory with particular rubbers in the past, and ceasing to try to attract trade by the use of such old catch words as "Para" and the like.

Let the established rubber manufacturer stand upon his reputation for supplying goods of a quality that he can guarantee. What more has he ever done? The public is not concerned about the source of the raw material. To the public Para means no more than Lopori, or Ikelenba or Ceylon. And as for newly started companies, they can do no more than in the past—offer goods that will compare favorably with the older concerns in the trade. If they make good their claims they will succeed; if not they will soon drop out of the game.

THE PROLONGED WINTER THAT CHEERED the rubber footwear trade may be remembered later with less pleasure if, as now seems probable, its effect should be seen in a reduced cotton crop and correspondingly higher prices next season for the cotton fabrics without which no rubber shoe is complete.

THE PRICES OF RUBBER SCRAP show no tendency to decline in keeping with the fall in the crude rubber market, which is renewed confirmation of the theory that the two classes of rubber are largely independent of each other. It would appear that, with a larger productive capacity than ever before, the rubber reclaimers are behindhand in the matter of filling orders for their products, in view of which fact it is natural that waste rubber is not going begging for buyers.

CYCLING IS NOT DEAD by a great deal, for only experienced a case of "suspended animation." The more fact that important rubber factories are putting out bicycle tire catalogues again, after having stopped their issue for a few years, is evidence of returning activity in the trade.

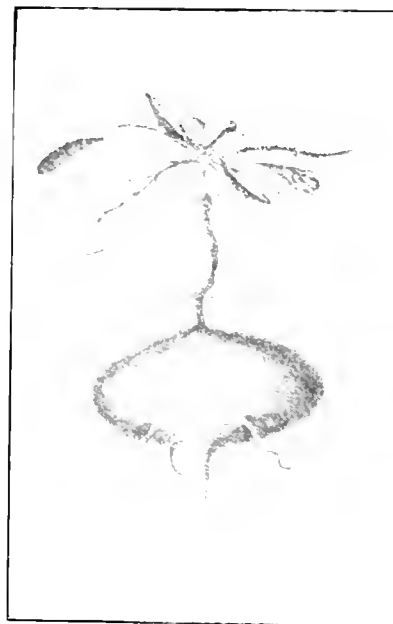
THE NEW TARIFF ARRANGEMENT WITH GERMANY will specifically affect the rubber trader at least, as most of the rubber goods appear in the lists under consideration between Washington and Berlin. We have no time or space here to analyze the new customs schedules, but on the theory that history repeats itself, it is safe to count on our German friends to rubber us as much, as usual, if not more, regardless of tariff regulations.

RUBBER FROM A TUBER AT LAST.

A PLANT found in Portuguese West Africa, and not hitherto known to science as a source of rubber, is the subject of a recent report by Professor Carlos Luaces de Mello Geraldes, of the agronomical institute at Lisbon. The plant is referred to as flourishing in the sunny, treeless plateaus around Bailundo and Bibé, inland from the seaport of Benguela, and lying particularly between the Kwanza and Zambesi rivers. This region was described in *THE INDIA RUBBER WORLD* May 1, 1903 (page 20) as the source of large quantities of "root rubber," which grade has been exported extensively from Benguela,

though the plant now described has no relation to those producing the class of rubber here referred to. It is ascribed by Professor J. Henriques, of Coimbra, to the natural order *Asclepiadaceæ*, while the *Landolphia Thollonii* and other "root rubber" species belong to the *Apocynaceæ*.

The new plant, known by the natives in different localities as "ekanda" and "maranganga," is a stemless biennial plant, with a fleshy yellow tuberous root, sometimes turnip shaped, but most frequently in form resembling a flattened sphere, the entire substance of which is permeated with lactiferous ducts. The plant ends at the top



THE "EKANDA" PLANT.

[A newly discovered rubber producer in Portuguese West Africa.]

in a simple or bifurcated prolongation or pseudo stem, 2 to 4 inches in length. The leaves are dark green, in two to five pairs, forming a rosette near the earth; they are simple, oval shaped, with a small point, and slightly hairy. The feather-like veins are light green in the young leaf, but turn violet red shortly before blossoming. The blossoms are five fold, small, violet red, and mostly sterile. In form they suggest a bunch of grapes, and are enclosed in a sheath prior to opening. The fruit is a spindle-shaped bag capsule, sometimes as long as four inches, and containing up to 50 seeds.

Rubber has been obtained from the "ekanda" tubers by various crude experimental processes, but chiefly by slicing them and applying pressure. The latex is referred to as coagulating with the application of alcohol, but not of alum. It has been suggested that by means of centrifugalization of the expressed juices a crumbed latex could be obtained which would yield a purer rubber than has yet resulted from the experiments. Tubers two years old are referred as attaining a diameter of 5½ inches and a weight of 11-13 pounds, and a rubber yield of 1½ per cent. of the total weight resulted from crude processes. Professor Geraldes, who regards the plant as adapted to cultivation, has figured out estimates of yield and profits, but these must be regarded as yet as hypothetical, and need not be repeated at this time. It may be mentioned, however, that he regards as possible a product of 200 kilograms of rubber per hectare (1,488 pounds per acre) at the end of two years. But his estimate of the value of the rubber (about \$1.28 per pound) is clearly too high for the quantity likely to be yielded from such a source.

The term "potato rubber," formerly sometimes used in the trade, did not, as some supposed, relate to rubber obtained from a sort of tuber, but to the appearance of the small balls in which certain rubbers came to market, particularly "almendina," a cheap gum exported in small quantities from Portuguese West Africa, but having no relation whatever to the "ekanda" product.

PROGRESS IN INSULATION.

HIGH TENSION EXPERIMENTS AT MILAN.

SOME high tension experiments of much interest were made at the Milan exposition on cables manufactured by Pirelli & Co. These experiments were made a number of times; among others, some before the electrical congress and once before the King of Italy. The cables tested were insulated with india-rubber. Though the company manufacture paper insulated cables largely, they believe that rubber insulation is necessary for very high tension work, for reasons demonstrated in the lecture by their electrical engineer, Mr. E. Jona, at the St. Louis Electrical Congress. The Pirelli firm have built a cable for working at a voltage of 100,000, and none of the lengths tested has broken down under 200,000 volts. There is no record of such high tensions having been reached previously. Mr. Jona has described these cable tests in *The Electrician* (London).

Mr. Jona describes also some stranded cables made by Messrs. Pirelli. The stranded conductor is sheathed in a lead tube and subsequently insulated by several layers of vulcanized rubber, up to a total thickness of 5.5 millimeters. Then follows a coating of 1.2 millimeters of gutta-percha, to insure absolute imperviousness to water. The core is then served with tarred jute and armored with 18 steel wires 3 millimeters in diameter. Three such cables were used in Italy to form a three phase line. In experiments made with such cable at Milan, designed for use on a 60,000-volt line, it was tested up to 160,000 volts.

HIGH VOLTAGE UNDERGROUND CABLES.

THERE seems to be a demand, says the *Electrical Review* (New York) for cables which can be used safely on a 44,000-volt system underground. At present the high tension apparatus of a city system is capable of operating at a considerably higher voltage than that employed, with the exception of the cables, and the *Review* is of the opinion that when cables for these higher pressures are demanded they will be forthcoming.

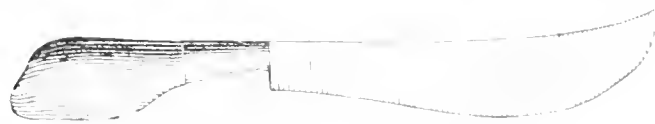
"If 44,000 volts be adopted for underground transmission lines, and it be found successful, it would not be surprising to have even higher voltages tried. Such a system is coming very close to the voltages now employed on the longest overhead transmission systems. These generally lie between 50,000 and 60,000, the latter figure as the upper limit, set, not by the weakness of the electrical apparatus, but because above this point the losses from the overhead wire increase rapidly. It is possible that some such limitation will be found for underground cables, yet if transformer windings operate satisfactorily at 80,000 volts or more the limiting consideration may be merely one of cost. The insulation thought to promise best for such cables is one consisting of cloth tape properly impregnated with some good compound. Rubber will hardly be used until some way of preventing the deleterious effect of high tension discharges has been devised. This is fortunate, in a way, since our rubber resources are already taxed to the utmost to supply the necessary quantity of material for insulating low potential wires."

Hot water bottles may be provided with an electric heating device, by means of which the water may be kept heated and at a constant even temperature as long as may be desired. This obviates the necessity of constantly refilling the bag with hot water. The electric heater may be attached to a water bottle stopper of the ordinary type, and connected by a short wire to an electric light socket. Such a device is the "Standard" water bottle heater sold by C. J. Bailey & Co., Boston.

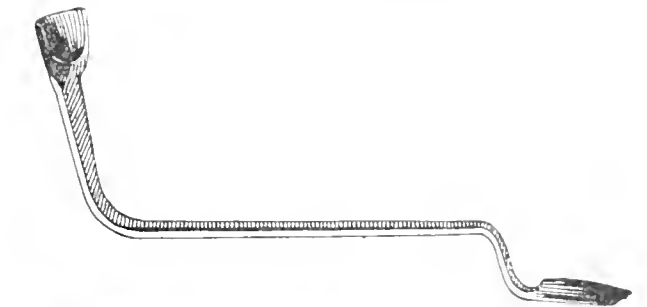
Rubber Tapping Tools, New and Old.

ALTHOUGH vines in the tropics have been used for centuries for the manufacture of articles of domestic use, it was not until the introduction of the rubber tree into the tropics that the use of vines for the manufacture of articles of domestic use was abandoned. The vines were used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use.

So far the greatest progress in the history of the rubber tree has been made in the tropics, where the *Hevea* has been introduced, and the vines used for the manufacture of articles of domestic use.



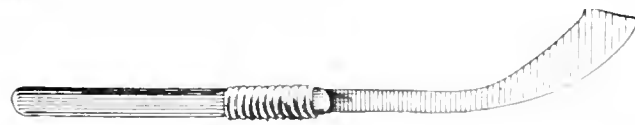
A SOUTH AMERICAN RUBBER TAPPING KNIFE.



TOOLS FOR CUTTING AND TAPPING RUBBER TREES.
[Used in the rubber plantations in Brazil.]



NATIVE "MOCHU" (BRAZIL).
[Used in the rubber plantations in Brazil.]

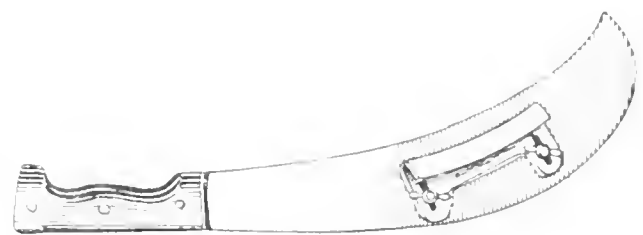


NATIVE "BO" (PHILIPPINES).
[Used in the rubber plantations in the Philippines.]

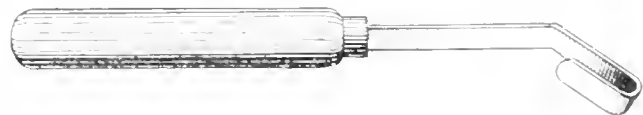


THE "PARA" RUBBER TAPPING CHISEL (CEYLON).
[For reopening the original incision, so as to renew the flow of latex with the smallest loss of bark tissue.]

The vines were used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use, and if one follows the vines in the tropics, one will find the vines used for the manufacture of articles of domestic use.



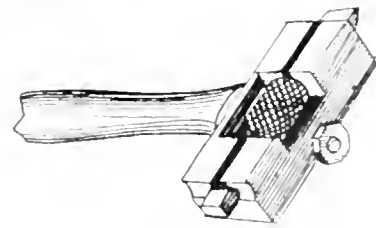
TOOLS FOR CUTTING AND TAPPING RUBBER TREES.



TOOLS FOR CUTTING AND TAPPING RUBBER TREES.



A SOUTH AMERICAN RUBBER TAPPING KNIFE.



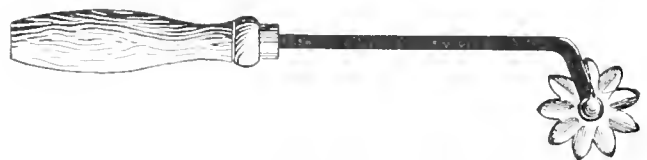
MACADAM-MILNER KNIFE.

[For reopening the original incision, so as to renew the flow of latex with the smallest loss of bark tissue.]



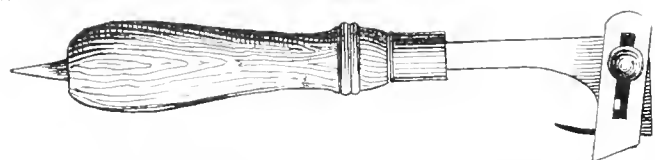
GOFFEDGE'S TAPPING KNIFE (CEYLON).

[For *Hevea*. Can be used in cutting from left to right and right to left from top downwards. Used to make the original incision and during subsequent paring operations.]



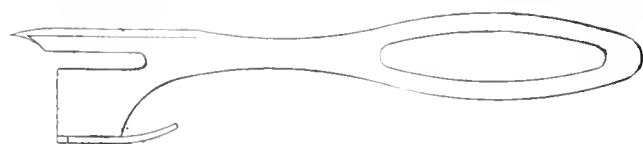
BOWMAN AND NORTHWAY KNIVES (CEYLON).

[For *Hevea*. Used in series of three. The first shown, at the top, is provided with a two-edged guide, which on pressing against the bark cuts the tissue and defines the area to be cut away by the knife behind it. It is used like a plane, the head being shaped to shave the bark gradually. The second knife is used for very thin parings, cutting on the lower edge of the grooves as originally made. The last knife, or pricker, with a spin-like arrangement, having a number of sharp cutting teeth, is used to cut the latex tubes near the cambium.]



DIXON'S TAPPING KNIFE (CEYLON)

[For *Hevea*. An open blade knife, adjustable to cut the bark at any depth. Base provided with a pricker for ascertaining bark thicknesses.]



TAPPING TOOL FOR "HEVEA" (CEYLON).

[Patented by the Colombo Commercial Co.]



TAPPING TOOL FOR "HEVEA."

[Designed by E. Valentine Carey in the Federated Malay States.]



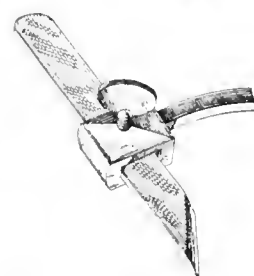
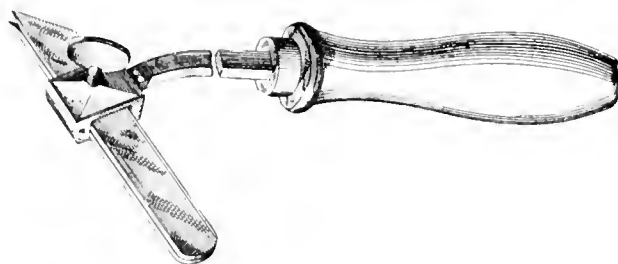
HOLLOWAY'S TAPPING TOOL (CEYLON).

[Used for *Hevea* on the "Kepatiga la" estate.]



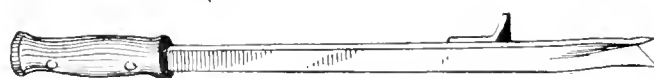
CHRISTY'S TAPPING TOOL

[Made by Thomas Christy & Co., London. The extension of the blade is regulated by a screw in the handle.]



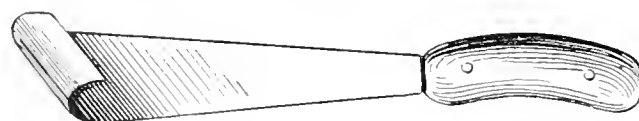
"V. D. K." KNIFE.

[Tapping tools for *Hevea*, patented by Gustav Van den Kerekhove, of Belgium.]



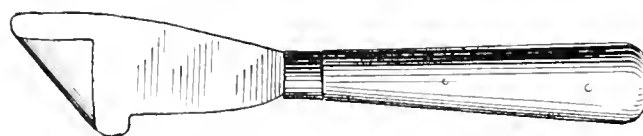
GORDON WALDRON'S TAPPING KNIFE

[For planted *Castilloa*. Used in Nicaragua.]



RUBBER TAPPING TOOL IN GUATEMALA.

[Used for wild *Castilloa*. A sort of transformed saber.]



RUBBER TAPPING TOOL IN GUATEMALA.

[Used for *Castilloa*. Designed by Señor Asturias, of the Plantation "El Baúl."]



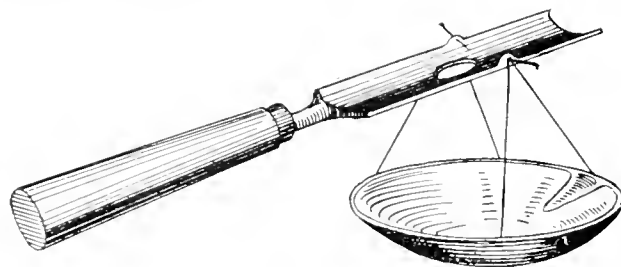
TOOL FOR "CASTILLOA."

[Suggested by Dr. Carl Otto Weber for use in Colombia.]



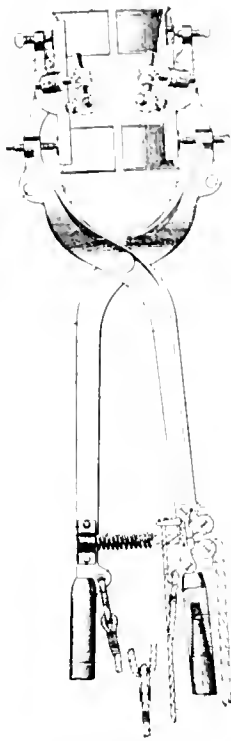
TOOL FOR "CASTILLOA."

[Used by C. A. Leshner on "La Zucualpa" plantation in Mexico. Consists of a loop of steel in a handle about 18 inches long, having inside it a long steel finger regulated by a thumb screw to determine the thickness of the cut to be made.]

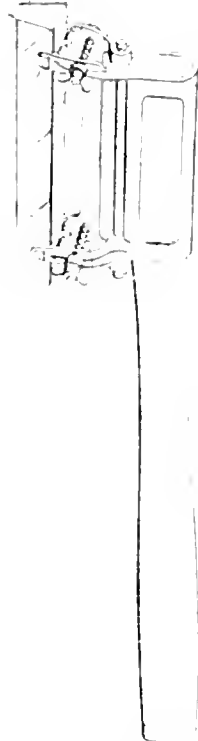


PRASTERINK'S GAUGE AND PAN (JAVA).

[Used on *Ficus*. The latex flows down the trough, through the aperture shown, into the collecting pan.]



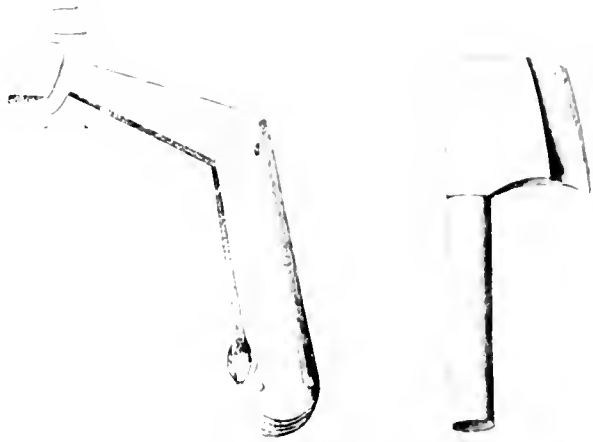
Robinson Patent.



Fish Patent

TAPPING TOOLS FOR "CASTILLOA."

[These are views of tools patented in the United States and used in Mexican plantations. The one on the left is the invention of F. S. Robinson, and the other that of W. E. Fish.]



COLLINS TAPPING TOOL.

[From the "Report on the Cultivation of Rubber in Ceylon," London, 1872.]

RUBBER PLANTING MISCELLANY.

A RESIDENT of British New Guinea is reported to the United States consul at Melbourne to have sold a quantity of rubber produced in that island at Sydney at \$1.04 per pound. Rubber trees as well as vines are found in New Guinea in abundance, which leads to the belief in Australia that this is to prove an important source of rubber.

The Seafeld Rubber Co., Limited, registered in London February 7, 1907, to acquire the Seafeld rubber estate in Klang, Selangor, for £64,000, of which £10,000 is in cash. Mr. H. K. Rutherford, of London, a part owner of the estate, is one of the first directors.

Pitakande Tea Co., of Ceylon, Limited.—The 1906 rubber crop was 1,049 pounds, against 820 pounds in the year previous. The company have 448 acres in rubber, including 20 acres planted in 1902. The rubber estimate for this year is 2,500 pounds. The company's tea trading afforded an 8 per cent. dividend for the past year.

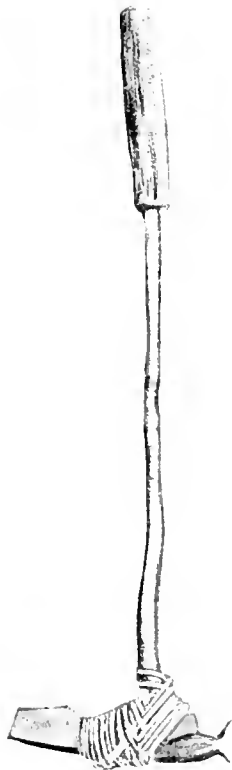
The Labu (F. M. S.) Rubber Co., Limited, registered in London February 9, 1907, to acquire the properties known as the Batang Lalun estate in Negri Sembilan. The estate was owned in England, one of the owners, Colonel Hon. Charles Lambton, being one of the first directors. Registered office: 5, Whittington avenue, E. C., London.

Samples of plantation Cearà rubber, sent to London from Beira, in Portuguese East Africa, were reported by a leading firm of brokers, according to the *Rhodesian Agricultural Journal*, to be worth about 5s. 2d. [\approx \$1.25 2 3] to 5s. 6d. [\approx \$1.33 1 4] with hard fine Pará selling at 5s. 2d.

The number of rubber trees under cultivation in Ecuador is stated by a British consul at about 1,000,000, mostly not old enough to be productive. The trees are of the native *Castilloa* species. A law was passed in 1904 offering a bounty of 10 cents (silver) for each planted rubber tree at the age of 5 years, but the consul had heard of only one application for such bounty for a plantation of 30,000 trees in the Tenguel District.

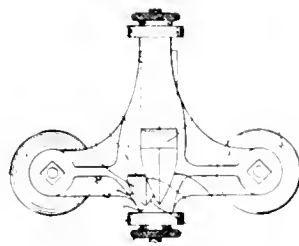
The Matale Planters' Association has proposed, and the government of Ceylon probably will be asked to adopt, a rubber ordinance, on similar lines to the existing ordinances relating to cacao and some other products. To-day a planter who complains of a theft of rubber, rubber plants, or rubber seeds, must identify his property in order to make a case. But under the cacao ordinance, for instance, a suspected person may be obliged to prove where he got the plants he has been accused of stealing.

The output of dry rubber from the Landi estate of the Messrs. Pears, in the Malay States, for April, amounted to 7,305 pounds.



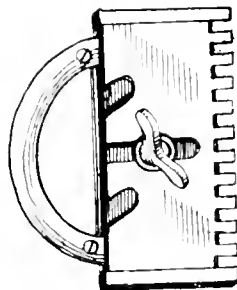
GUTTA-PERCHA CUTTING TOOL (MALAY PENINSULA).

[Primitive native device, "Bill-bong," for felling trees.]



SANBORN PATENT (U. S.)

[Device for grooving or tapping *Castilloa* or other rubber yielding trees.]



MACADAM'S COMB PRICKER.

[For *Hevea*, in Ceylon. A flat steel blade or comb with a dozen sharp teeth on one side. The blade can be pushed outward or drawn inward.]

BRAZIL'S EXPORT OF RUBBER.

THE figures herewith indicate the weight in kilograms of the exports of rubber from all the ports of Brazil, of rubber produced in that republic, during the past four calendar years. They have been compiled from the returns of the federal bureau of statistics of Brazil, and are in continuation of a similar table presented in THE INDIA RUBBER WORLD July 1, 1903 (page 343). We have had occasion before to refer to the high degree of efficiency to which the statistical office referred to has been developed under the administration of Mr. J. P. Wileman, and

PARA RUBBER (INCLUDING CAUCHO).

Ports	1903	1904	1905	1906
Manoás	16,406,319	15,331,879	15,247,938	14,732,000
Para	12,550,057	13,171,212	10,221,760	19,554,000
Corumbá	255,168	254,300	411,787	217,000
Itacoatiara		2,175	6,001	
Maranhão	100	13,410	82,640	
Ilha do Cajueiro	1,072	18,344	71,200	
Porto Murinho	2,740	3,800	2,701	

Total 29,318,055 28,792,206 32,073,285 31,043,000

CEARA RUBBER ("MANICOBÁ").

Ports	1903	1904	1905	1906
Cabo de Santo Agostinho	517,824	608,870	589,218	715,000
Bahia	49,624	93,615	1,443,820	1,410,000
Ilha do Cajueiro	932,858	503,871	557,530	505,000
Para	656	2,430	350	
Maranhão	27,308	11,471		
Cabedelo		1,023	8,527	
Perambuco	41,333	97,550	82,000	34,000
Macó		180		
Rio de Janeiro	5,397	680	100	

Total 1,721,801 2,220,777 2,682,217 2,664,000

MANGABEIRA RUBBER.

Ports	1903	1904	1905	1906
Bahia	355,201	415,579	201,189	262,085
Rio de Janeiro	43,457	85,195	105,413	129,044
Santos	62,588	128,001	95,100	88,535
Corumbá	37,893	56,883	74,733	81,722
Para	1,860	541	2,865	
Maranhão	3,214	6,391	3,107	
Ilha do Cajueiro	28,100	35,310	20,733	
Ceará	3,060	6,035	10,010	
Cabedelo	15,354	22,873	11,742	90,953
Perambuco	97,849	85,034	30,344	
Macó	11,543	10,420	3,294	
Porto Alegre		350		
Porto Murinho	400	1,300	480	

Total 661,581 855,268 637,109 653,239

Grand total 31,702,130 31,873,491 35,392,611 34,060,239

BRAZILIAN RUBBER EXPORTS, BY PORTS.

	1903	1904	1905	1906
a. Amazon ports	20,001,422	28,508,227	31,477,950	31,296,000
b. Atlantic ports	2,344,507	3,042,385	3,394,000	3,301,517
c. Interior ports	206,201	312,879	519,701	302,722

Total 31,702,130 31,863,491 35,392,611 34,900,239

a. Para, Manoás, and Itacoatiara

b. On the Brazilian coast, from Cabedelo south to Santos

c. Corumbá and Porto Murinho, on the river Paraguay, discharging into the Rio de la Platte, and representing the shipments figuring as exports to Uruguay and Argentina

DESTINATION OF EXPORTS, 1906.

COUNTRIES	Para	Manicoba, Mangabeira	Total
United States	16,162,000	433,000	16,595,000
Great Britain	10,700,000	1,530,000	12,230,000
Germany	1,661,000	375,000	2,036,000
France	2,770,000	295,000	3,065,000
Uruguay		83,596	83,596
Other countries	200,000	31,000	231,000

Total 31,643,000 2,664,000 34,307,000

the figures herewith may be regarded as representing very closely the totals of the rubber manifests from the different ports. Some of the statistics here included are not available from any other source.

It will be observed that these figures relate to shipments by calendar years, whereas the Para and Manoás figures, presented elsewhere in this paper, relate to "crop years." Besides, the latter include the output from the whole Amazon region, whereas the figures on this page report the Brazilian output alone. This explanation is made in view of the fact that Mr. Wileman's latest advices show a slightly decreased total production, while the latest "crop year" ending six months later, by the way—gives a large increase over any former year.

THE RUBBER TAX AT PARA.

A NEW condition in the rubber trade at Para has resulted in no little dissatisfaction among the exporters there. The *ad valorem* export duties on the various grades of rubber are calculated, not upon the value of each particular shipment, but upon an official valuation, which is revised weekly. Every Monday morning the various exporters report to the *Recebedoria* (the state tax receiving office) the different prices at which they effected purchases during the preceding week, being obliged to mention every purchase of 2 tons or more. The *Recebedoria* takes the average of the prices for fine rubber and declares it the same morning as the *pauta* (official price) for the current week. Similarly the *pauta* for coarse rubber and cacho is arrived at by taking the average of prices paid for those sorts. The taxing of rubber by the Para authorities applies only to rubber produced in the state of Para, though in fixing the *pauta*, account is taken of all sales at that port, regardless of the origin of the rubber. This system has long been in vogue, and in operation it has proved satisfactory.

Since the cession of the Acre region by Bolivia, it has been organized into the Federal district of the Acre, under the fiscal administration of the government at Rio. Rubber exported from that territory is taxed by the Federal government, the collection being made at Para by *Alfandega*, a Federal office, independent of the local *Recebedoria*. The complaint that is made is in regard to the method of fixing the Federal *pauta*, or official price. In this case, the lower prices paid for "islands" (Para state) rubber are not taken into account, which results in the Federal *pauta* being considerably higher. It is pointed out that it is unjust, under the circumstances, that the *pauta* for the Para state product should be influenced by the prices for "upriver" rubber being included in the computation.

The difference between the two *pautas* is shown in a comparison of the official figures announced for the week beginning May 13 [values in reis per kilogram]:

	State.	Federal.
Fine rubber	5,950	6,325
Medium	5,950	6,025
Coarse	3,610	4,700
Cacho		3,700
Cacho sernamby		4,700

The *arador* firms, by whom the rubber is brought to market, have made a protest to Rio de Janeiro respecting the way in which the Federal *pauta* is made up, to which at last accounts no reply has been received.

Manoás has a *pauta* fixed in the same way as that in the state of Para, relating to fine and coarse rubber, cacho and cacho sernamby (Peruvian ball and sheet).

A RUBBER UNDER THE BAN.—A rubber called "gutta-jangka" is marketed at Sarawak, Borneo, adulterated with raw sago, clay, and other foreign matter. The government has just prohibited the practice, under the penalty of fines not exceeding \$100.—*Malay Mail*.

Plantation Versus Amazon Rubber Prices.

It is impossible to get an accurate estimate of the cost of placing rubber on the market in the Amazon region, says Mr. Reginald W. Wickham, a writer in *The Times of Ceylon's* London edition on the Amazon has the significant statement that the proprietor of a *seringa* (rubber) property in the Amazon supplies the goods needed by the workers, and that he, in turn, he credits each worker with approximately the market value of the rubber which he collects, minus a percentage for carrying costs and the like. "The profit is made in the supplying of goods to the workmen. Having the monopoly of supplying perhaps several hundred men with the requisite necessities, comforts, and luxuries, and the men being able to earn (on paper) £1 to £2 a day, and there is being no real struggle, the merchant proprietor is able to charge what he likes for the goods, and thus the profits of a rubber concern are seen as 'trading,' and not rubber. In fact, it is really a system of exchange and barter, the goods being exchanged at the lower price for rubber at somewhere near the market price at Manaus." Yet if the proprietor charges too much he is liable to lose his labor.

Mr. Wickham thinks that if the price of rubber should fall to any great extent, the Amazon region can never compete with the Far East. Manaus is today about the most expensive place in the world to live in. Goods cannot be supplied to the rubber workers cheaply enough to enable Brazilian rubber to compete with that from the East, when enough of the latter comes into the market to influence the price. "Meanwhile, the Amazon rubber is the bird in the hand, while Ceylon and Malay rubber is the bird in the bush."

The Amazon forest region is so large, says Mr. Wickham, that one man could hardly become qualified to make definite statements in regard to it, but he is certain that no population in North Brazil can ever work out the rubber on the Amazon and its tributaries. "The reason rubber men are going farther and farther away for their rubber is not so much that the nearer tracts are being worked out, as to get farther away from competition, and obtain better control of a monopoly in supplying goods. At times drastic measures have to be taken to keep out competition; on a river, just beyond where I was, three Jews, who were trying to buy direct from the workmen rubber that was already hypothecated to the proprietor, were simply shot. The only remark made was: 'Serves them right; they had no right to be there.'"

Mr. Wickham is reported to have visited Brazil for the purpose of selecting rubber areas for investment by an English syndicate, and *The Times of Ceylon's* London correspondent hears that some prominent Ceylon people may become interested.

The Times of Ceylon regards Mr. Wickham's views as cautious. The editor does not think that Eastern rubber planters should stake their all on the idea that at 3 shillings [about 75 cents, gold] they will cease to have to compete with wild rubber. "In the event of a heavy fall in rubber prices," says the *Times*, "of course the rubber forest proprietor's trading profits will fall heavily from their present position, and there will be a great many economies forced on all concerned. But the main source of the world's supply was where it is now in the days of rubber at 3s. 6d.; and while the rubber is there for the gathering, most of the collectors will continue their work down to no profit worth speaking of rather than turn to some other occupation, probably quite as arduous and with no greater promise. Naturally there will be less collected at 3s. than now, and this will

tend to raise the price, and the price will be high enough to make it worth the collector's while to collect, and the collector will be able to make his money."

Further on the same issue of the *Times* is an account of the Amazon rubber market, in which it is stated that the Amazon rubber market is "a very small one." Mr. Ashton Russell, a member of the London Rubber Trade Association, is quoted as saying that the Amazon rubber market is "a very small one." Mr. Russell is quoted as saying that the Amazon rubber market is "a very small one." "Brazilian collectors," he says, "are not able to collect more than a few hundred tons of rubber a year." "The price of rubber," he says, "is not high enough to make it worth the collector's while to collect, and the collector will be able to make his money."

Mr. Russell estimated the world's production of rubber at 1,000,000 tons, of which Brazil yields nearly 500,000 tons, or about 50 per cent of the world's production. The output of plantation rubber is about 100,000 tons, or about 10 per cent of the world's production. "The growth or demand for rubber," Mr. Russell says, "is not so great as when the yield of plantation rubber has been 100,000 tons yearly, but it is not so much as when the yield of plantation rubber has been 100,000 tons yearly. He considers that all the rubber available from the Amazon for many years to come will be required."

It may be noticed that Mr. Russell's account of the Amazon rubber market is not so favorable to the Amazon rubber as that of Mr. Wickham, but the rubber region is so large that doubtless a wide range of practice exists.

As having a bearing upon a proper comparison of Amazon forest and Ceylon plantation conditions, in affording to assist rubber production, the illustration accompanying this article may prove interesting. It is from a photograph of a typical rubber station on the river Jurua, an affluent of the upper Amazon, which runs through what is considered one of the richest rubber-producing areas in the whole Amazon region. Such a house as is shown in the photograph represents very fairly the kind of construction employed in the great majority of rubber stations on the upper Amazon. These houses, known as *barracas*, are used as a place of residence by the owner of the *seringa* (rubber) camp and his assistants, as well as a store house for supplies and deposit of rubber. The houses are built upon piles, so as to be out of reach of the water during the annual flood time, when the whole country is inundated and work suspended.

The group of *seringueiros* (rubber workers) is also typical. They are principally natives of Ceara and Maranhão, going up river each year to gather rubber, with a few Indians and half-breeds belonging to the locality. The men are shown with the various implements used in their work. The *seringueiros* do not live in the *barraca*, but construct rude huts in the forests near by, as convenient as possible to the *estrada* which they may be working. River steamers call periodically at such a station, to discharge supplies and take on rubber.

Such a rubber estate as the illustration relates to is not only located at the edge of a primitive tropical forest, with its rubber trees scattered at a rate of only a few to the acre at best, but it is subject to floods, and the workers, mostly uneducated, to the deadly fevers and the ill effects of insufficient or improper food. The Jurua river itself is nearly 2,000 miles from the seaboard, with practically only one civilized center (the city of Manaus) between it and the ocean. Communication is infrequent and



TYPICAL RUBBER BARRACKS ON THE RIVER JURUA, IN BRAZIL.

irregular. Under such circumstances the rubber working forces increase slowly, and what would be considered cheap labor in any other country cannot exist. Ultimately, no doubt, better conditions may exist, with more effective labor, and more economical production of rubber, but progress in this region is so slow as to be hardly perceptible.

In strong contrast with these conditions is the situation in Ceylon, for example, where systematic cultural operations, based upon long experience in tea estate management, render the production of rubber something to be planned as carefully and the cost and profits to be calculated as exactly as any business undertaking in any part of the world.

CAMPHOR TO BE CULTIVATED.

THE increasing use of gum camphor and the restricted sources of supply, coupled with the fact of its having become a monopoly of the Japanese government, have tended to the establishment of a higher level of prices, which is being felt seriously in certain lines of industry. Before the invention of celluloid and of smokeless powder, in the manufacture of both of which camphor is essential, no such prices for the raw material had ever been recorded as now prevail. An English writer has compiled figures running back to the time when camphor was purchasable at one-eighth of the present price.

Since the Japanese gained control of the island of Formosa, whence most of the camphor comes, the area producing this gum has been widened, and better methods used for producing it, but this has not tended to lower the price, on account of the growing demand, to say nothing of the monopoly now existing. Meanwhile the Japanese are reported to have succeeded, in competition with European and American refiners, in producing refined camphor of such quality that they may in time control the whole situation by allowing no crude camphor to be exported. This has led to serious attempts, particularly in Germany and France, to produce a substitute for camphor. These, however, do not appear to have yielded important results as yet.

Another means of escape from the Japanese monopoly may exist through the cultivation of the camphor tree, which is about

to be encouraged in a practical way by the government of Madras, in India. It is asserted that the tree will grow there, and Mr. J. McKenzie, of Prospect estate, Nedivattam, is the first to obtain from the government special favors in consideration of planting 60 acres in camphor. Cultivated trees are expected to yield camphor within 5 years.

The importation of camphor into the United States varies in amount, but of late has been heavy. The following figures, relating to imports of crude camphor, are supplied by customs reports:

YEAR.	Imports, Pounds.	Value.	Av. per. Pound.
1892-93	1,733,425	\$446,548	25.6 cents
1896-97	1,400,587	332,745	22 cents
1903-04	2,472,440	874,665	35.3 cents
1904-05	1,604,000	638,744	33.5 cents
1906-07 (8 months).....	1,580,527	759,004	48 cents

Crude camphor is entered free of duty, and refined is dutiable at 6 cents per pound. Imports of refined in the fiscal year 1904-05 were 214,050 pounds, valued at 34.8 cents. Late quotations at New York were \$1.24@ \$1.25 for American and \$1.30@ \$1.33 for foreign refined.

THE SALE OF RUBBER SEED.

THE rapid extension of rubber planting in Ceylon and the Malay States has created a demand for seeds and plants which has added materially to the profits of some of the plantations already existing, the young *Hevea* trees beginning to fruit even before reaching the tapping age. Some planters, however, insist upon buying seeds only from mature trees. A recent Ceylon paper contains advertisements from more than a dozen estates offering rubber seeds and plants for sale, the usual price being equivalent to \$1.62 (gold) per 1,000 seeds and stumps as high as \$6.50 per 1,000. One of the planting companies, in its latest annual report, credits \$11,346.83 (gold) to the sale of 3,000,000 seeds and 41,500 plants; another reports sales amounting to \$8,478; a third, \$22,707; a fourth, \$5,752, and so on.

THE EDITOR'S BOOK TABLE.

HANDBUCH DER GUMMIWARENFABRIKATION. [The Practical Handbook for Edoukanten, Chemiker, Betriebsleiter, Kapitele in Gummiwaren-Fabriken. Von A. v. Heyl und Dr. W. Esch. Dresden: Steinkopf & Spingler, 1906. [Cloth. 8vo. Pp. 11, 50 marks.]

THE authors of this work bring to its production the aid of a familiarity with the chemistry of rubber and with factory practice, and while they by no means undertake to set down all that is needed to make the rubber manufacture a success, they do point out clearly the task which confronts him who would master the essentials in this much diversified industry. Thus there is enough in regard to the nature of rubber and the difference between the various commercial grades, to help one appreciate the importance of care in the proper selection for compounding for different kinds of goods. The importance of proper compounds is nowhere lost sight of, and nearly a hundred typical mixtures are given in the book. Of course a book of compounds alone will not make a rubber factory superintendent any more than a "cook book" will make a *chef*; still, before making up rubber goods one must know what to put into them, and an idea of what proportions have proved successful in practice is helpful.

Illustrations are given of the principal machines used in rubber working, with an account of the function of each and instruction in its use. There are details on the manufacture of twenty classes of soft rubber goods, from hose pipes to elastic threads, and also on hard rubber goods, following chapters of a general nature on washing, mixing, calendering, and vulcanizing. There is also a chapter on reclaiming rubber. Incidentally the history of the rubber industry is told briefly, ascribing the discovery of vulcanization to Goodyear. The authors have a field large enough for an encyclopedia, but in their restricted space the ground has been covered well.

RUBBER CULTIVATION IN THE BRITISH EMPIRE. A LECTURE Delivered before the Society of Arts. By Herbert Wright, C. S., F. L. S. London: MacLaren & Sons, 1907. [Cloth. 10mo. Pp. vii + 100 + plates. Price, 2s. 6d.]

THE author, until lately controller of the Ceylon government experiment station, where he devoted much attention to rubber culture, on being invited to address the London Society of Arts, sketched the extent and limitation of the natural sources of rubber, and the development of planting the different species in various regions, but particularly within the British empire. Results are stated in detail, with a forecast based upon what has been accomplished to date. The publishers, by special arrangement, have brought out the present edition of the lecture, in addition to its publication by the society, adding illustrations and notes of interest. The lecture is followed by a report of the discussion to which it gave rise, and in which several rubber brokers and manufacturers participated, the whole indicating how deeply the rubber trade in Britain are becoming interested in the planting question.

THE CONGO. A REPORT OF THE COMMISSION OF ENQUIRY Appointed by the Congo Free State Government. A Complete and Accurate Translation. New York and London: G. P. Putnam's Sons, 1906. [Cloth. 8vo. Pp. 171. Price, \$1.]

WHILE this is not, strictly speaking, a book about rubber, the rubber trade lies at the bottom of the Congo question, which question probably will not be settled with much definiteness until the wild supplies of rubber have become exhausted. What may then be developed in the way of mineral wealth is another question; also whether Leopold's heirs in the ownership of the Congo will administer it better than he has done. As to the excellence of the translation, as claimed on the title page, we can say nothing. The book is informing in regard to the Congo country in general, and no doubt is more trustworthy than the books of the "horror" writers who have had so much to say about that part of central Africa.

SELF-PROPELLED VEHICLES. A PRACTICAL TREATISE ON THE THEORY, CONSTRUCTION, AND OPERATION OF SELF-PROPELLED VEHICLES OF AUTOMOBILE TYPE. By J. C. McQuay. New York: The Autolite & Cycle Co., 1907. [Paper. 16mo. Pp. viii + 298. Price, \$1.]

THIS is the sixth edition of a practical book intended to help machinists and owners of motor cars to understand the construction, use and care of these vehicles. The work has "worn" well and with each new edition it has been brought more up to date and rendered broader in scope. Four of the 31 chapters are devoted to tires, besides which these necessary appendages of the automobile are referred to frequently elsewhere in the book.

BOLIVIA. ADDRESS DELIVERED BY THE BOLIVIAN MINISTER, M. Tiquende Calvo, Under Secretary of the National Geographic Society, at Washington, D. C., on July 1, 1907. London: The Geographical Society, 1907. [Paper. 8vo. Pp. 21.]

WHILE the natural wealth of Bolivia to-day is no greater than before Columbus turned traveler, it is much nearer realization, and a valuable service is being rendered to the country by its capable representative at Washington, the author of this address. Bolivia's greatest handicap is the lack of transportation facilities, being denied access by water to the seaboard, but the railway construction now assumed will before many years open the way to rubber fields reputed to be the richest in the world.

IN CURRENT PERIODICALS.

The Ancient and Modern Cultures of the Kaffirs of South-East Africa. By Georg Scherzer. *Verhandlungen des Vereins für die Naturgeschichte der Museen zu Berlin*, IV, no. 1 (Oct. 1, 1906). Pp. 1-20.

The Modern Cultures of Kaffirs in Madagascar. By O. De Meillon. *Revue de Géographie*, Poitiers, XI, 4 (April, 1907). Pp. 244-248.

Les Sources de la Région de Maroussi. By O. De Meillon. *Revue de Géographie*, Poitiers, XI, 4 (April, 1907). Pp. 249-250.

Essai d'une Synopses des Espèces de genre Hevea. [Contributions to a synopsis of the species of the genus Hevea.] By Jacques Heyland. *Revue de Géographie*, Poitiers, XI, 4 (March, 1907). Pp. 251-252.

*On the Life History of *Leucospiza grisea* (Aud.) in Wasm., the Rubber Tree.* [The whole with 14 illustrations.] By E. B. Stallings, F. R. S. *The Indian Forests*, XXXIII (June, 1907). Pp. 6-12.

THE preferential tariff concessions of Brazil in favor of certain products of the United States, in effect temporarily for some time past, have been made permanent. Under these provisions manufacture of india-rubber, gutta-percha and celluloid are admitted at rates of duty 20 per cent. lower than are applicable to products of other countries.



WHERE CHARLES GOODYEAR WAS BORN.

(Modern view of the house at New Haven, Connecticut, and at the birth of Goodyear's birth, December 23, 1828, by his father, a merchant and manufacturer.)

NEW TRADE PUBLICATIONS.

SOCIÉTÉ INDUSTRIELLE DES TÉLÉPHONES (Paris), one of the leading French houses in the rubber industry, being capitalized at 18,000,000 francs [= \$3,474,000], in addition to insulated wires and cables, tires and general rubber goods, pay special attention to waterproof garments for men and women, which they make in great variety. A recent catalogue [8½" x 10¾", 30 pages] contains illustrations of many of their styles, including some which are designed for motorists' use. It is accompanied by an album of specimens of various tissues adapted to their waterproofing, nearly 200 in number.

THE OHIO RUBBER CO. (Cleveland and Cincinnati) have brought out their 1907 catalogue of Buckeye Brand Waterproof Clothing, including mackintoshes, rubber surface goods and rain-coats [5½" x 7½", 23 pages], containing many attractive styles, together with a separate net price list.

BOWERS RUBBER WORKS (San Francisco) have grouped together an interesting set of views, from photographs, illustrating the progress made in the reconstruction of their factory since they were burned out in April, 1906. [7½" x 6", 24 pages.]

THE DIAMOND RUBBER CO. (Akron, Ohio) send a very complete booklet on Belting, readable and well illustrated [5" x 7", 10 pages], and one entitled "Diamond Tires Are the Best" [4" x 6", 12 pages], and a number of leaflets and circulars descriptive of various products of their factories. One other which will be mentioned is a catalogue of Diamond Bicycle Tires, about the only list of the kind we have seen from an American manufacturer this season. [4" x 6", 16 pages.]

GRAND RAPIDS FELT BOOT CO. (Grand Rapids, Michigan) issue a booklet, "How to Select and Care for Felt Boots, Rubbers and Rubber Boots," filled with practical suggestions for wearers of such goods which dealers doubtless will be pleased to have for distribution to their trade. [3¼" x 6½", 32 pages.]

THE RUBBER PRODUCTS CO. (Barberton, Ohio) have sent us their Illustrated List (Catalogue A) of Druggists' Sundries, including a particularly full line of rubber gloves. [6" x 6", 32 pages.]

JOSEPH DIXON CRUCIBLE CO. (Jersey City, New Jersey) publish an attractive and interesting little book on "Crucibles: Their Care and Use," by John A. Walker, vice-president, treasurer and general manager of the company. The book relates to the proper use of crucibles, and the dangers of their abuse; it tells what graphite is, and why crucibles are made of it. The work is excellently illustrated. [6" x 6", 30 pages.]

HUGMAN RUBBER CO. (New York) issue a new illustrated price list of Druggists' Sundries and Miscellaneous Rubber Goods which covers a wide range of products. The illustrations are admirably done and give a good idea of the appearance of the goods. [6½" x 8¾", 53 pages.]

"La Favorite Products—Perry Packings" is the title of an attractive catalogue of LA FAVORITE RUBBER MANUFACTURING CO. (Paterson, New Jersey). A large variety of goods are described and a number capably illustrated. [5½" x 6¾", 50 pages.]

ALSO RECEIVED

KOHLER-EHRENFELDER Gummifabrik G. m. b. H., Cologne-Ehrenfeld, Germany. Preis-Liste [Toy Balloons, Grotesque Figures, and the like]. 8 pages.

Pirelli & Co., Milan, Italy, and New York.—Price List Pirelli "Improved Construction" Tires. 4 pages.

The Hartford Rubber Works Co., Hartford, Connecticut. Midgley Treads. 10 pages.

Commonwealth Rubber Co., Reading, Massachusetts.—Mitchell Punctureless Pneumatic Tires. 8 pages.

The India-Rubber and Gutta Percha Insulating Co., New York.—Hobbshaw Wires and Cables. Price List. 20 pages.

Gorham Rubber Co., San Francisco. Price List of Belting, Packing, Hose, Brass Goods, etc. 72 pages.

The Republic Rubber Co., Youngstown, Ohio. Republic Tires for Automobiles. 16 pages.

Firestone Tire and Rubber Co., Akron, Ohio. "Firestone Sparks" [relating to tires]. 32 pages.

THE MEXICAN "YELLOW TREE."

IT is reported that an application has been made to the Mexican government by Carlos Illaguno y del Hoyo for a concession to extract rubber from the tree known locally as the "palo amarillo" (yellow tree), and botanically as *Euphorbia elastica*, on all national lands in the states of Guerrero, Jalisco, Michoacan, Guanajuato, Oaxaca, Puebla, Colima, and the territories of Tepic and Baja California. This tree was illustrated and described in THE INDIA RUBBER WORLD, February 1, 1906, (page 148).

W. H. Ellis, of New York, who has done something in the way of exploiting guayule companies in Mexico, gaining control of the factory at Gomez Palacio of the National Rubber Co. (a Texas corporation), is mentioned by a German paper as about to operate very largely. He is referred to as organizing the Continental Palo Amarillo Rubber Co., with \$20,000,000 capital, to exploit not only guayule, but rubber from the "palo amarillo" tree, and also from the "amate" tree, which latter is said to abound in several Mexican states. Ellis, by the way, is not known in New York as a banker of such prominence as reported in Mexico. He last figured in public in connection with a personally conducted mission to Abyssinia, coming back in charge of a saddle presented by the Emperor Menelik to President Roosevelt. He failed to notice the abundance of rubber in Abyssinia, which later, being observed by an Arab merchant, was made the basis of a concession and a largely capitalized British company, with the Arab as manager.

At the Antwerp rubber sale of January 16 the offerings included 1 ton of "Amarillo" rubber, from Mexico, estimated by the official broker at 250 francs per kilo [= 218 cents per pound], but withheld from sale at 270 francs.

RUBBER TIRE MISCELLANY.

THE Hartford Rubber Works Co. are making solid motor tires, both single and double, with coiled springs in the tread to prevent skidding, and also with coiled springs in the base to render it more rigid and allow of narrow channel fastening.

A physician in Port Huron, Michigan, Dr. G. H. Tredgold, is the inventor of a spare wheel, not of the Stepney type, but more like an ordinary artillery wheel cut in half, and built to clamp over the hub by the side of a punctured tire. It is a little larger in diameter than the tire that it is intended to relieve, and one could without doubt bump home upon it.

"Rub-Metal"—we do not know just what it is—but it is something that the New Motor and General Rubber Co., Limited (London), claim is far superior to leather and in use is vulcanized to the tread of the tire either with or without metal skulls imbedded in it.

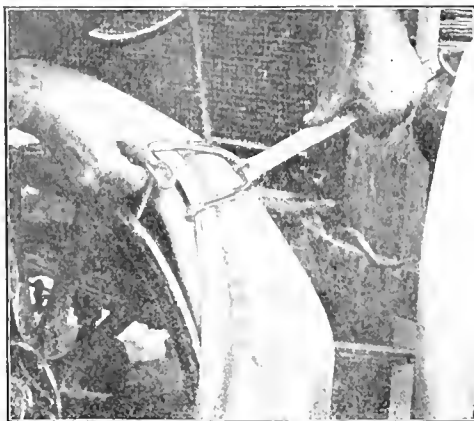
An English invention for the prevention of side slip is a series of flanges sharpened at the ends and hardened, which pass through the channel and rim of the wheel between twin tires. It would seem as if in actual service they might be a trifle hard on the road.

A patented nonskid for cycle tires known as "Handelmaatschappij," fastened around the tread of the tires by a series of strong clamps, is made by R. S. Stokes & Zonen, Rotterdam, Holland. It is said to do the work excellently. In case one is not equipped with this type of antislip device it is advised that you take the name above and run it lengthwise around the tread and skidding will be absolutely prevented.

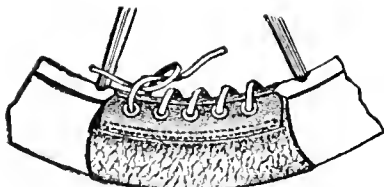
Spare tires are often taken from automobiles by thieves simply by cutting the straps that hold them, therefore the Allen Bag and Specialty Co. (New York) have brought out a bronze tire lock capable of fastening two 5 inch tires to the running board.

"H. & H." TIRE TOOL.

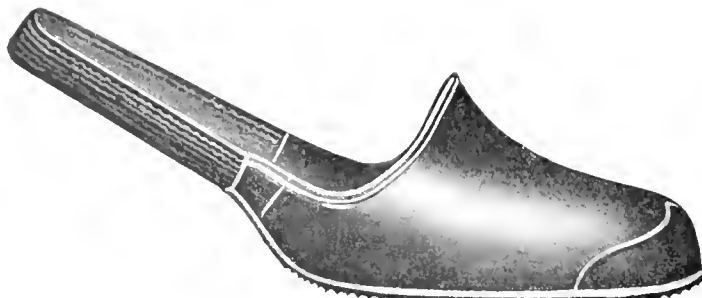
THE illustration shows this simple tire tool in use, and is so clear as to render an elaborate description unnecessary. The tool is employed to remove or replace lugs, or for putting in the valve stem while replacing an inner tube. To place a valve stem or lug, the hooks are placed under the bead of the shoe and the lever on the tread, and the tire pushed back out of the way. Near the end of the handle the tool is made thinner, and there is also a slight bend. This makes an excellent device for removing the bead of the tire from the rim. The tool is reversible, so that its use is equally practicable for large or small tires. [Hancock & Heller, Binghamton, New York.]

**"H. & H." TIRE TOOL.****THE MESINGER TIRE REPAIR BAND.**

MANY tourists have found the Mesinger tire repair band of great convenience. It is made of mineral chrome leather, which is tough, soft, and pliable, and water does not affect it. Heavy, strong eyelets are in the sides through which the band is secured with a strong leather lacing, and it comes in sizes 2½, 3, 3½, 4, 4½ and 5 inches, ready to attach to the tire. The Mesinger non-skidding tire band can also be used as a tire band. This band is made of the same material as the repair band, with an extra fabric lining, and steel rivets over the tread. Instead of having tire protectors on the rear wheels, three, four, five or six of these bands are put on to prevent skidding. [H. & F. Mesinger Manufacturing Co., No. 1801 First avenue, New York.]

**MESINGER TIRE REPAIR BAND.****"NO-WATE" FOOTHOLDS.**

THESE footholds are just what the name implies, their weight when on the shoe being almost imperceptible. But their lightness of weight is not their only claim upon the attention of the

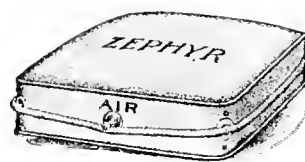
**"NO-WATE" FOOTHOLD**

woman who wishes to be well dressed and at the same time comfortable, so far as footwear is concerned. They are well designed, the lines being good, and they are of unusual flexi-

bility. Special protection is afforded by a reinforced toe, and for the heel strap, in place of the usual rubber support, an elastic band is substituted. The dainty way in which they are put up appeals to the feminine fancy, each pair being encased in a silk bag, rubber lined, drawn with silk cord—a most convenient and sightly means of carrying them or packing them. [The Maple Leaf Rubber Co., Port Dalhousie, Ontario.]

BOAT AND CANOE CUSHIONS.

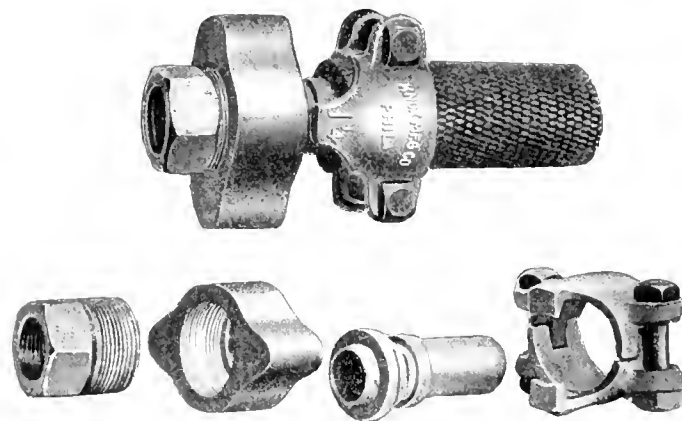
NOTHING adds more comfort to canoeing than an air cushion, and the "Zephyr" air cushion has the requisite qualities that comfort implies. They are made in two kinds, single and double, and in weights ranging from 17 to 46 ounces. The lightest of the single cushions weighs 17 ounces and the heaviest 24 ounces, while the lightest of the double cushions weighs 34 ounces and the heaviest 46. They vary in size also, the smallest being 12 × 12 inches

**[Single.]****ZEPHYR AIR CUSHION.****[Double.]****ZEPHYR AIR CUSHION.**

and the largest 15 × 15, in the single cushions. The double cushions in the smallest size, 12 × 12, have seat and back alike, while the other sizes have seats a few inches larger than the backs. The largest seat in the double cushion is 15 × 15 and the back 15 × 28. The covers are made of a fine quality of brown duck, corduroy, or leather. The life-line attachment with which they are equipped gives a feeling of safety which affords the last touch of comfort—the original premise. [Metropolitan Air Goods Co., Reading, Massachusetts.]

GOODALL HIGH PRESSURE COUPLING.

THE Goodall high pressure air and steam hose coupling, illustrated herewith, is made in all sizes from ¾ inch to 3 inches. Being strongly and substantially made, it is designed to withstand severe usage, adapting it especially for steam and air drill

**GOODALL HIGH PRESSURE COUPLING.**

service. It is referred to as being easily and quickly attached, reducing the inside diameter less than other high pressure couplings, and costing less than others. The manufacturers guarantee it particularly in respect of safety. [Knox Manufacturing Co., No. 153 North Fourth street, Philadelphia.]

- 82 (1906). Rubber faced waistbands to 1906, in position. R. L. Gooding, Bridgetown, Barbados.
- 132 (1906). Detachable tread band for pneumatic tires. C. M. Gantier, London.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 1, 1907.]
- 159 (1906). Revolving heel pad. T. T. Spencer, New Basset, Hertfordshire.
- 153 (1906). Pneumatic tire with cork segments between the cover and inner tube. J. A. E. Hall and L. C. Stevens, Eastbourne.
- 641 (1906). Rim for pneumatic tire, with detachable flange. C. H. Stotesbury and E. P. Reid, London.
- 36 (1906). Coupling for hydraulic hose. J. Muskett, Pendleton, Manchester.
- 671 (1906). Rims for vehicle tires, with detachable flanges. E. Herbert and H. J. Whyatt, Bristol.
- 692 (1906). Belt of leather, with cross strips of metal, to prevent slipping of pneumatic tires. S. G. Jones, London.
- 7502 (1906). Bathing cap. F. E. Herndon, Dallas, Texas.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 8, 1907.]

- 1051 (1906). Heels and heel protectors with adjustable and renewable wearing surfaces. H. J. Millard, Northampton.
- 1053 (1906). Solid rubber tires, twin treads, with clincher rim. J. W. Cann, Folkestone, Kent.
- 1082 (1906). Heel protectors retained by interlocking plates. R. Barnes, Fitzroy, Victoria.
- 1242 (1906). Solid rubber tires, single or twin, secured by holding rims. J. Taylor, St. Ann's-on-Sea, Lancashire.
- 1439 (1906). Pneumatic tire with two inner tubes. A. H. Devenoge, Deauville-sur-Mer, France.
- 1552 (1906). Detachable device to protect pneumatic tires from puncture or side slip. H. Parsons, Southampton.
- 1557 (1906). Spring wheel fitted with solid or pneumatic tire. C. Merzington, Proctoria.
- 1582 (1906). Spring wheel with resilient tire. R. H. I. Cook, Greenwich.
- 1593 (1906). Elastic tire made up in sections of soft rubber and vulcanite. F. Reddaway, Pendleton, Manchester, and W. A. Sankey, Sutton.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 15, 1907.]

- 1620 (1906). Boot or shoe waterproofed with the use of waterproof paper. R. Trebitsch and two others, Vienna.
- 1661 (1906). Vaginal syringe. C. O. Farrington and T. Watson, Sealy, Texas.
- 1743 (1906). Hose coupling. I. C. Merryweather, London.
- 1761 (1906). Pump for inflating tires. M. G. Ashjornsen, London.
- 1893 (1906). Hose coupling and valves. F. Weinrich, Remscheid, Germany.
- 1885 (1906). Puncture proof tread for pneumatic tires. W. Blamires, Harrogate.
- 1932 (1906). Pneumatic tire without inner tube. C. Burnett, Durham.
- 1933A (1906). Pneumatic tire with recessed tread to prevent slipping. C. Burnett, Durham.
- 2041 (1906). Stud for use on pneumatic tire covers. A. Beaud, Villeurbanne, France.
- 2106 (1906). Take-up motions for looms. [Bands of soft material like india-rubber passing around one of the take-up rollers and a carrier roller grip the fabric.] F. S. Hamel, Tamworth.
- 2118 (1906). Antiskidding device for pneumatic tires. A. J. Noel, London.
- 2172 (1906). Lever for adjusting pneumatic tires. R. Connell, Gainsborough.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 23, 1907.]
- 2192 (1906). Wrapper for pneumatic tires when not in use. H. R. Teel, Medford, Massachusetts.
- 2247 (1906). Cutting machine for india-rubber, waste-hose and the like, with or without armor. H. M. Wilkinson, Paris; R. R. Gubbins, East Greenwich, and E. Quinn, London.
- 2366 (1906). Apparatus for cleansing waste pipes. [Hose with funnel shaped end.] F. Petri, Lippstadt, Germany.
- 2403 (1906). Inflated lay figure, for garment makers' use. J. Ramb, Berlin.
- 2413 (1906). Jointed stopper involving an india-rubber ring. G. V. De Luca, Bromley, Kent.
- 2471 (1906). Device for and process of waterproofing fabrics, particularly leather for shoe inner soles. A. J. Boul, London. (United Shoe Machinery Co., Paterson, New Jersey.)
- 2484 (1906). Rubber pads for soles and heels, with leather foundations to facilitate attachment. W. C. Allen, Stockport.
- 2488 (1906). Rubber belts for conveyors, fortified by the insertion of layers of canvas. F. Reddaway, Pendleton, Manchester.
- 2518 (1906). Pneumatic tire, with recesses in the tread for anti-slipping plates. G. O. Heine, San Francisco, California.
- 2531 (1906). Pneumatic tires and tubes coated internally with Turkish balline to stop punctures automatically. T. H. G. Gayner, South Melbourne, Australia.
- 2576 (1906). Rim for attaching a pneumatic tire with a sectional air tube. A. R. Whitehead, Far Headingley, Leeds, and T. H. Shaw, Bradford.

- 2589 (1906). Cylinder for multicylinder engine for motor cars, convertible into a tire inflating pump. J. Hacking, Chorley, Lancashire.
- 2621 (1906). Pneumatic tire with compressed wood fiber strips fixed to a leather tread band. C. Gégand, Paris.
- 2769 (1906). Pneumatic tire. E. C. Tame, London.
- 2791 (1906). Non-slipping composition for tires, formed by mixing powdered furnace slag and rubber. P. J. Jackson, London.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 379,327 (Aug. 30, 1906). A. Napoleon. The fabric.
- 379,494 (Oct. 31). Oruchet. Antiskid tire.
- 379,414 (Oct. 9). L. Heibert. Tire fastening device.
- 379,444 (Oct. 12). H. Labling. Puncture-proof tire.
- 379,526 (Oct. 16). Société de Caoutchouc. Pneumatic tire.
- 379,536 (Oct. 17). Gauthier. Spring wheel.
- 379,552 (Oct. 16). J. E. Galland. Tire fabric.
- 379,639 (Oct. 20). Kunzler. Elastic tire.
- 379,649 (Oct. 19). A. Tixer. Rubber reclaiming process.
- 379,714 (Oct. 23). E. Girard. Elastic tire.
- 379,739 (Oct. 24). A. Martin. Anti-skid.
- 379,755 (Oct. 25). Ripert and Schmitt. Elastic tire.
- 379,857 (Oct. 26). H. Guerin. Burst-proof for pneumatics.
- 379,871 (Oct. 27). A. Gentzsch. Rubber reclaiming process.
- 379,872 (Oct. 27). A. Gentzsch. Rubber reclaiming process.
- 379,994 (Oct. 29). Brosse. Elastic tire.
- 379,926 (Sept. 3). Linck. Tire filling compound.
- 379,819 (Aug. 21). L. Robert. Rubberized leather.
- 379,826 (Oct. 13). Fauber and Schwenburg. Pneumatic tire.
- 379,621 (Oct. 29). E. Warwick. Anti-skid for tires.
- 371,105 (Nov. 5). A. L. Cudez. Anti-skid for tires.
- 371,157 (Nov. 7). A. Kuntze. Anti-skid for tires.
- 371,195 (Oct. 19). R. P. Kinney. Tire repairing device.
- 371,349 (Nov. 13). Villevé. Double rim for pneumatics.
- 371,437 (Oct. 17). Société Mitteldutsche Gummiwarenfabrik. Louis Peter A-G. Process for making tires.
- 371,493 (Nov. 14). Nivet. Tire making machine.
- 371,515 (Nov. 15). J. D. Roots. Pneumatic tire.



VIEW ON "LA ZACUALPA" PLANTATION (MEXICO).
[Rows of cultivated *Castilleja* trees.]

A Page of Tire Features.



MILLER'S SECTIONAL VULCANIZER.

[The lead strips are held in place by one crew and are quickly removed. The vulcanizer is steam jacketed and the tire comes in direct contact with the walls. Made by Charles E. Miller, Anderson, Indiana.]



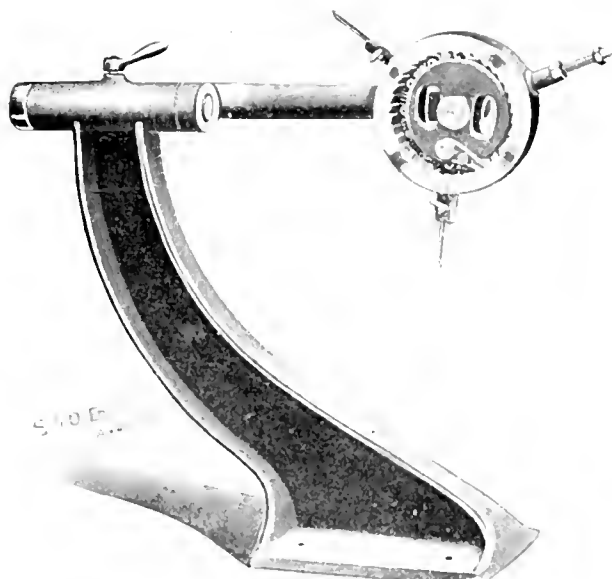
INTERNATIONAL TIRE PROTECTOR

[Copper plated steel disks arranged in a stratum of rubber so as to present practically a continuous, flexible band. Separately constructed and placed between casing and inner tube. Invented by Lemont Greenwald; made by the Akron Pneumatic Tire and Protector Co., Akron, Ohio.]



EXTENSION TIRE PNEUMATIC

[The valve in the casing is inserted at the hinge in the tire and sealed with rubber. This gives greater elasticity to the tire, allowing it to expand to fit any pressure to which the tire may be subjected under varying conditions. Repairs can be made effectively, and new treads put on with ease. Invented by Lemont Greenwald; Akron Pneumatic Tire and Protector Co.]



ADAMSON UNIVERSAL TIRE BUILDING STAND.

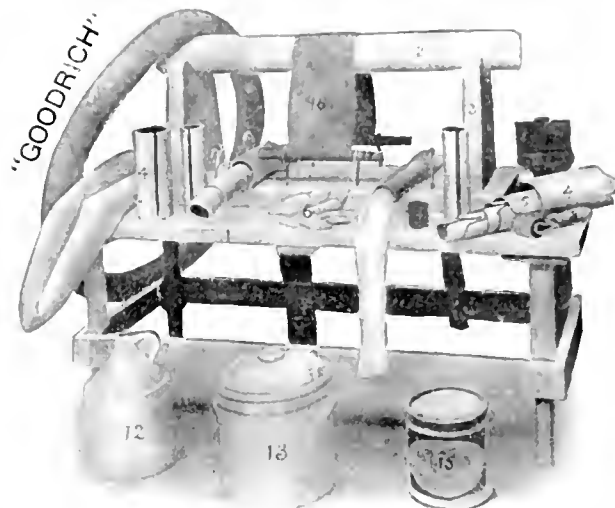
[Instantly adjusted for any size core. Ball bearing. Rigid, simple, and occupies little space. Manufactured by A. Adamson, Akron, Ohio.]



CONTINENTAL RUBBER WORKS TUBE.

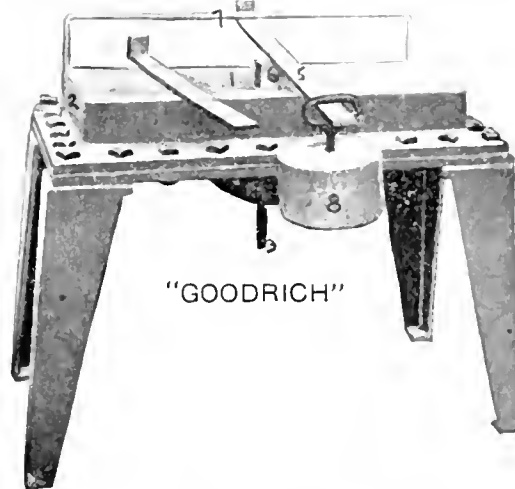
[Laminated, being made of three layers of rubber in smaller sizes and four layers in 3 1/2 inches and larger, all vulcanized together. Tubes specially re-inforced at valve base with strip of Sea Island cotton fabric and extra rubber strips, to prevent valve stem from pulling out. Continental Rubber Works, Erie, Pennsylvania.]

The Sager chain tire grip, to prevent slipping, is attached to side plates of band steel. One advantage is that if one or more chains should be broken accidentally, the others are not affected. The makers are The J. H. Sager Co., Rochester, New York.



GOODRICH LARGE ACID SPLICING AND INNER TUBE CURING OUTFIT.

[Particularly adapted to use in garages where air power is accessible. The B. F. Goodrich Co., Akron, Ohio.]



GOODRICH CLINCHER TIRE VULCANIZER.

[Flat tread type. Designed for vulcanizing patches on inner tubes, small cuts on tires, and beads of clincher cases. Operated by steam or gas. The B. F. Goodrich Co., Akron, Ohio.]

The India-Rubber Trade In Great Britain.

By Our Regular Correspondent.

THIS was the title of a paper recently read by Mr. W. E. Reid before the Liverpool section of the Society of Chemical Industry. Comparatively little was said about the utilization of waste rubber; in fact, the references to side issues were of greater length. Guayule rubber was mentioned as not

UTILIZATION OF WASTE RUBBER.

likely to be of great importance, because the exhaustion of its available source would not yield more than 18,000 tons of rubber.

There was no doubt, the author said, that plantation Pará would displace the South American product, as regards quality, in time. This prediction is a somewhat confident one in view of the absence of any definite knowledge respecting the differences noticeable at present between the supply from the two sources. Those who grow the rubber in the plantations are not, according to Mr. Reid, sufficiently informed as to the requirements of the user. Possibly they are not, but how about the South American natives? I think we may take it that while the manufacturers know the best quality rubber when they see it, they have no special knowledge of the details affecting its production, and it is difficult to see how they can help the planter in his part of the business. Later on, in the discussion, Mr. Max Muspratt, in referring to Ceylon rubber, said that it had undoubtedly been most disappointing and that rather fictitious values had been given to it at first because only small quantities were available and every manufacturer wished to try it. The descriptions which Mr. Reid gave of the reclaimed rubber business will be generally familiar to those in the trade, and they do not call for mention. Special reference was made, however, to the Lexier process, which has been "boomed" a good deal of late. I have not so far seen any of the rubber and am not competent to criticise the process, which consists shortly of digesting the powdered rubber with twice its weight of terpineol in a closed vessel at 100 to 150 degrees C. The mineral matter subsides after admixture with benzene, and the latter, having been distilled off the rubber, is then precipitated by alcohol or acetone. According to Mr. Reid this rubber is decidedly superior to other reclaimed rubber. Of course other processes have been patented having the solution of the vulcanized rubber and its reprecipitation the main features, but the rubber obtained has always been of a poor quality.

When figures given by various authors for loss in washing are compared considerable discrepancies are to be noted. That

RAW RUBBER NOTES.

this should be so in the case of low qualities is only what might be expected, but with regard to such a uniform quality as fine

Pará the matter seems to call for some explanation. With regard to this it should be noted that fine rubber to-day loses more on washing than it did a few years back, and the cause of this may undoubtedly be attributed to the acceleration in transit. The tendency of late years has been to expedite the arrival of the rubber in England, and slow boats have largely given way to fast steamers. The rubber therefore has less time than formerly to lose moisture during transit, thus causing the factory figures for loss in washing to come out higher.

With regard to plantation rubber, which had such a strong inebriety in THE INDIA RUBBER WORLD from a Canadian manufacturer a month or two ago, there is a very prevalent idea that it cannot be depended upon if bought in bulk. The variations that have been so noticeable between different small parcels, have made some manufacturers chary of using it for really important work. In the card clothing industry, for instance, its use has not yet gone beyond the experimental stage. As a prominent manufacturer in this branch said to me the other day: "We have not sufficient confidence in it to buy it and stock it. With fine

Pará from South America, however, we know that, whatever bulk we may buy, we shall have uniform quality throughout."

A point with regard to some of the new Ceylon rubber companies has been impressed upon me by a late planter, and that is the expense attendant upon the weeding. A prospectus states that so much ground will be opened up and planted, but according to my informant the rapidity with which the weeds grow is frequently overlooked and if they are to be kept duly under control a considerable expense will be entailed.

A TENDENCY is noticeable in the trade for small concerns to be acquired by those in a larger and more diversified way of business, or who at any rate have larger capital resources. We have seen the taking over of the Anchor Cable Co., at Leigh, by the Calender company, and the acquisition of the St. Helens Cable and Rubber Co., by the same firm, in conjunction with other large cable companies. The Hyde Imperial Rubber Co., after a somewhat checkered career, now belongs to Mandleberg & Co., the well known waterproofing firm. A rumor now reaches me that the old established mechanical rubber firm of Broadhurst & Co., of Bradford, Manchester, is to be taken over by another local company. Broadhursts have been in the hands of a receiver for some time, and if the deal just referred to does not go through it may be taken that the business will be disposed of in another way. A recent advertisement in a contemporary is to the effect that a Scotch rubber works is for sale as a going concern. There may, of course, be family reasons for relinquishing the business in this case, but speaking generally it may be taken that the smaller concerns find themselves handicapped owing to their inability to pay for first class management.

THIS company, with a capital of £50,000, has been formed to take over the undertaking of the works of B. Cohen, Limited, at

PREMIER WATER-PROOF AND RUBBER CO.

Bromley street, Manchester. The last named firm got into difficulties some time ago owing entirely, it is understood, to losses in connection with their Canadian business, and the works have been since carried on by a receiver appointed by the debenture holders. Mr. B. Cohen, who has had a serious illness brought on by mental worry, has now quite recovered, but will have no connection with the new company, Mr. Joseph Cohen being the only member of the family retaining a position in the business. Of the directors H. W. Hassberger has long been connected with the management and the bulk of the old hands will be kept on. T. Lilley and T. Lilley, Jr., other directors, are new to the rubber industry in Manchester, being prominently connected with the boot trade in London. In former times the trade carried on at these works was limited to waterproofing, but in the last few years considerable extensions have been made to enable the manufacture of mechanical goods to be carried on.

THE fact that British made rubber machinery has recently been sent out to the Straits Settlements marks a new and at

RUBBER MANUFACTURE IN THE EAST.

least interesting departure. Up to now the districts producing raw rubber have not concerned themselves with the manufacture of finished goods, and now the European and American firms will have new competition to meet. For some time it may be expected that the manufacture will be only on a modest scale and limited to certain articles, and it must not be overlooked that although the raw material may be cheap and at hand the hundred and one other requirements of a factory will not be correspondingly cheap or easy of obtaining.

NEW Pegamoid, Limited (London), on May 30 registered a trust deed covering all their assets, to secure £10,000 [= \$48,665] in debentures.

A Canadian Industrial Leader.

MR. S. H. C. MINER, whose retirement from the presidency of the Canadian Consolidated Rubber Co., Limited, was noted in THE INDIA RUBBER WORLD recently, has been associated with manufacturing in Canada generally for the past 50 years, and with the rubber manufacture in particular for about 25 years. Although having reached his seventy second year with health and vigor preserved to a remarkable degree, his retirement from the presidency of the Consolidated Company marks his entering upon a period of well-earned rest, to which he has been looking forward for some time past. Mr. Miner played an important part in the formation of the Canadian Consolidated Rubber Co. a year ago. His thorough familiarity with the details of the rubber business, his experience in handling large financial undertakings, and above all the high esteem and confidence which he enjoyed from the whole business community, were invaluable in the adjustment of divergent interests involved to a common equitable basis. Mr. Miner became the first president of the company temporarily to permit the completion of the organization. This has now been accomplished, by the inclusion within the Consolidated company of five important rubber manufacturing concerns in the Dominion, including the Granby, his own company.

Mr. Miner has so long been identified with the rubber business in the history of the Granby Rubber Co. that he is perhaps considered by many in the trade to be simply a rubber man. The fact is, however, that few men to-day have followed so many and such varied lines of manufacture, at least successfully. He was, for example, the pioneer sole leather tanner in Canada, and when the bark on his limits was exhausted, he carried extensive lumbering operations over the vast forest regions that he controlled. Since that time his experience and judgment, and above all his exceptional powers to direct and inspire those upon whom the active management of enterprises is laid, have caused him to be sought after as a director by many Canadian companies. Among other directorates of which he is a member may be mentioned The L. H. Packard Co., Limited, The Standard Explosives Co., Foster Rubber Co., of Boston; Rorton Tool and Mill Co. and several mining companies.

The foregoing, however, are small propositions compared with some of Mr. Miner's commercial undertakings. He controls the Hastings Shingle Manufacturing Co., of Vancouver, B. C., with a mill that turns out 600,000 shingles a day, besides which the company operate a very large lumber mill and own and control some of the largest timber properties in British

Columbia. Mr. Miner was instrumental in the formation of the International Coal and Coke Co., owning one of the best equipped coal mines in the Northwest, situated at Coleman, Alberta. The capital of this company is \$3,000,000, and Mr. Miner is its largest stockholder. He is also one of the largest stockholders in the Alberta Coal and Coke Co., which owns some 5,000 acres of hard coal land in Alberta now under development. This company is capitalized at \$2,500,000. He is also at the head of the Granby Alaska Mining Co., which has very large silver-lead deposits up in Alaska. Perhaps his most important creation, however, was the Granby Consolidated Mining, Smelting and Power Co., a \$15,000,000 corporation operating copper mines in southern British Columbia, which netted last year more than \$2,000,000 profit. Mr. Miner, although he sold control of this company three years ago, is still one of the largest stockholders.

His connection with the Granby Rubber Co., of course, is well known. The concern was started in 1882 to manufacture rubber clothing. In 1887 Mr. Miner built new mills and appeared in the market with the well known Granby rubber footwear. His factory made from 5,000 to 6,000 pairs of shoes a day, and the company, it is said, made more money in proportion to its output than any of the other Canadian factories. Mr. Miner was also interested in the formation of the Ames-Holden Co., one of the largest jobbing houses in Canada and who are sole selling agents in Canada for Granby rubbers.

It was natural, with all the commercial interests carried by the subject of this sketch, that he should become more or less interested in banking, and he long ago became connected with the Eastern Townships Bank, with head office at Sherbrooke, Quebec, and with branches in 57 cities and towns throughout Canada. Of this bank, which has a capital of \$4,000,000, Mr. Miner is vice president.

One of the most influential men in Canada, Mr. Miner has always resolutely refrained from accepting political office, although often urged—the single exception being the mayoralty of the town of Granby, which he has held for 20 years past, the place being the location of the Granby Rubber Co., his summer home, and in fact, his town financially and sentimentally. Although he won't take office he is intensely interested in public matters, and often lends efficient help to the passage of laws that he believes will upbuild his country.

Mr. Miner is president of the advisory board of the Congregational College of Montreal, in which he takes a great interest, and which with many other good works and charities he and



SAMUEL HENDERSON CAMPBELL MINER.

Mrs. Miner support with unstinted and unostentatious generosity. Mr. Miner is an enthusiastic Canadian, but yet not a narrow one. Indeed as he has large business interests in the United States he is often in Boston and New York, and keeps in touch with the rubber business as well as anybody in the Americas. Although born in Canada he is from New England stock, his mother being born in Vermont, and while his father was born in Canada, his grandfather was a Connecticut Yankee and a graduate of Dartmouth College.

RUBBER IN THE CANADIAN TARIFF.

THE new Canadian customs tariff act, assented to April 12, 1907, involves several changes in the rates applicable to imports of manufacturers of india-rubber and gutta-percha. The language of the several paragraphs relating to these commodities is given below, together with the new rates and those effective under the acts of 1891 and 1897. By way of explanation it may be stated that, in addition to the "general" tariff, special "preferential" rates are provided for the products of Great Britain and certain British dependencies named in the act, and also an "intermediate" rate for the products of other British colonies or possessions or foreign countries under certain conditions, involving reciprocal benefits. It may be noted that Australia does not appear in the list of British countries entitled to the "preferential" tariff. The duties here specified are *ad valorem*:

617. India-rubber boots and shoes. General tariff, 25 per cent.; British preferential, 15; intermediate, 22½.

Rate under the act of 1891—30 per cent. on articles and gaiters and 25 per cent. on rubber boots and shoes without uppers of cloth or other materials. Rate under act of 1897—25 per cent.

618. Rubber cement and all manufactures of india-rubber and gutta-percha not otherwise provided for. General tariff, 27½ per cent.; British preferential, 15; intermediate, 25.

Rate under the act of 1891—32½ per cent. on belting and 25 per cent. on the other articles. Rate of 1897—20 per cent. on belting and 25 per cent. on unspecified articles.

619. India-rubber clothing and clothing made waterproof with india-rubber; rubber or gutta-percha hose, and cotton or linen hose lined with rubber; rubber mats or matting and rubber packing. General tariff, 35 per cent.; British preferential, 22½; intermediate, 30.

Rate of 1891—35 per cent. on clothing and 32½ per cent. on the other articles named. Rate of 1897—35 per cent. on the whole.

620. Webbing, elastic, over one inch wide. General tariff, 20 per cent.; British preferential, 12½; intermediate, 17½.

Not specified in the preceding tariff acts.

The above comparison may be summarized thus:

Duties unchanged on footwear, clothing, waterproofed cloth, hose, packing, matting and mats.

Duties higher on belting and all other manufactures of india-rubber and gutta-percha not mentioned in the preceding paragraph. [The imports of belting last year amounted to \$40,437 in value, and the goods classed as "All other" to \$414,828, or 51 per cent. of the total imports of rubber goods.]

Under the previous tariff (that is, since July 1, 1898), imports from Great Britain were admitted at a reduction of 25 per cent. from the general tariff. This concession, however, has not given Great Britain a leading position in the Canadian rubber goods trade, as these figures will show—indicating the value of rubber goods imports for the past three fiscal years:

	1904-05.	1905-06.	1906-07.
Total imports	\$978,215	\$825,390	\$811,743
From Great Britain	334,040	194,990	99,605

Rubber tires are specifically mentioned in the new tariff act—in paragraph 502, which embraces, among other things, "tires of rubber for vehicles of all kinds, fitted or not." The rate is 35 per cent., general tariff, 22½ per cent. British preferential, and 30

per cent. intermediate—the same as named in paragraph 619, already quoted.

THE FREE LIST.

Crude materials remain free, as before, paragraph 616 reading as follows: "Rubber and gutta-percha, crude caoutchouc or india-rubber, unmanufactured, powdered rubber and rubber on gutta-percha waste or junk; hard rubber in sheets but not further manufactured, and recovered rubber and rubber substitute."

The following articles are also admitted free:

Seamless cotton or linen duck, in circular form, of a class or kind not made in Canada, for use in the manufacture of hose pipe.

Rubber bulbs for vaccine points.

Fillets of cotton and rubber not exceeding 7 inches wide, imported exclusively for use in the manufacture of card clothing.

Rubber thread, not covered.

Rubber heads for whips.

THE SHOE MACHINERY SITUATION.

THE Massachusetts legislature has passed, after a long contest, what is known as the "Shoe Machinery bill," aimed specially at the form of lease in use by the United Shoe Machinery Co., who supply machines and outfits in large numbers to shoe manufacturers.

The new law provides that no person or company shall, after July 1, 1907, make it a condition in the sale or lease of any machine or implement that the purchaser or lessee shall not buy or lease machinery or materials from other persons. But if the owner of any machine shall be protected by patent rights, he may require that any purchaser or lessee thereof shall purchase or lease from him such component parts of the machine as may be required during the continuance of such patents. And nothing in the act shall be construed to prohibit the appointment of agents or sole agents to sell or lease machinery. A violation of this act is punishable for each offense by a fine not exceeding \$5,000.

The number of machines out under lease by this company in the United States on March 1, 1907, was 57,777, an increase for the year of 8,877. The company have also a large factory at Leicester, England, and many machines under lease abroad. The Massachusetts legislation affects conditions only in that state, of course, and does not apply to leases made before July 1. But legislation aimed at restrictive leases is pending in Great Britain, and may be proposed in other of the American states, in case the questions involved shall not first be settled by the United States supreme court in a way to render such enactments without effect.

It does not appear that the Massachusetts law was supported by the shoe manufacturers, with whom an agreement was reached by the Shoe Machinery company several years ago, providing for the form of lease that has since been in force. The Shoe Machinery company opposed the Massachusetts law, as it says, not for fear that it would affect the company injuriously, but on the principle that the industry should be as free from restrictive legislation as possible. The United Shoe Machinery Co., by the way, are practically without competition in their field, so that the restrictive clauses now prohibited have had no effect, because there has been practically nothing to keep out. The Shoe Machinery Company will prepare new forms for leases, likely to involve a higher cost to manufacturers, and a larger income for the company.

The Shoe Machinery Company is embraced in the United Shoe Machinery Corporation, formed under the New Jersey laws May 1, 1905. The latter also controls the companies in England, France, Germany, Switzerland, Australia and Argentina. The earnings last year were \$4,183,000. On June 14 a stock dividend was declared, amounting to 173,000 shares of common stock.

Two Good Men Retire from the Trade.

THE Boston Rubber Shoe Co. have been deprived during the month of the services of two important members of the administrative force at their factories, by the resignation of Messrs. E. F. Bickford and Frank L. Locke. We have pleasure in presenting herewith portraits of these gentlemen, together with a brief record of their connection with the company.

* * *

ERSKINE FRANK BICKFORD, who has resigned the position of manufacturing agent, was born in Woodstock, Connecticut, in 1841. He received a common school education, after which he worked in various capacities until his twentieth year, when he enlisted in the army of his country in the civil war and served with credit for three years, at the end of which time he was captured and confined in the hospital prison at Richmond, Virginia.



ERSKINE F. BICKFORD.



FRANK L. LOCKE.

It may be mentioned here that he has since carried somewhere in his sturdy frame a bullet which no surgeon has been able to locate. On being released from prison he went to Annapolis, in the service of the government.

In 1865 Mr. Bickford entered the office of the Boston Rubber Shoe Co., then but a small corporation. It was so small, indeed, that with the help of one assistant he was able to run the office, handle the pay roll, receive the goods, and do the billing. The superintendent at that time was John Robson, the father of John Robson, who is now connected with the company. On the death of the elder Robson he was succeeded by J. B. Sweetland, who was superintendent for about four years, leaving in 1872. During this interval the business has grown considerably and the factory has been enlarged from time to time. On the retirement of Mr. Sweetland, the late Mr. E. S. Converse was for a short time his own superintendent, with Mr. Bickford as an able assistant.

With the continued growth of the enterprise Mr. Converse's time became more and more engrossed in the general management of the business, while upon Mr. Bickford devolved the details of manufacture—a kind of work which he proved himself marvelously adapted to do, as shown in the splendidly organized army of operators who are employed in the great factories at Malden and Melrose.

After the Boston company was merged with the United States Rubber Co. (in 1898) Mr. Bickford was appointed to the position of manufacturing agent of the former company's two factories, the new plan of organization embracing also a general superintendent, with an assistant superintendent for each factory. During the past eighteen years Mr. Bickford has been a member of the board of directors of the Boston Rubber Shoe Co., a position which he still holds.

In addition to his close attention for so many years to the interests of the manufacturing company, Mr. Bickford has found time to serve as a trustee and director in the Malden City Hospital, a director in the Malden Savings Bank, and an active supporter of the Malden Baptist Church. Mr. Bickford is a man of quiet and studious habits, a great reader, conservative to a degree in his methods, and withal strikingly self-reliant, and capable of attention to a great amount of detail.

* * *

FRANK LOVERING LOCKE, who has resigned as general superintendent of the factories of the Boston Rubber Shoe Co., to take effect on July 1, was born in the West End in Boston in 1855, attended the public schools, and was graduated from the Phillips Grammar and English High schools. After a year employed in railroad engineering he entered the Massachusetts Institute of Technology, from which he was graduated in 1880 as a bachelor of science. He continued his connection with the Institute for a year, then devoted some time to the engineering department of the city of Boston, going in 1895 to the Boston Rubber Shoe Co., where he was first engaged in the engineering department. He later became assistant superintendent of the company, in charge of Factory No. 1, and on January 7, 1902, was appointed general superintendent,

with an assistant for each of the two factories—the position which he has just resigned.

Mr. Locke has always maintained his interest in the Institute of Technology, has served as president of the alumni, was an organizer of the Technology Club, and is at present a member of the Institute corporation. He was for fifteen years in active service in the Massachusetts Volunteer Militia, from which he retired on account of the pressure of business in 1900, with the rank of Colonel. Mr. Locke has taken an active part as director and treasurer in the Associate Charities of Malden and is a member of the Malden Hospital Corporation. He has been particularly interested, however, in the work of the Boston Young Men's Christian Union, of which he has been a member since 1870, and for almost twenty years active in the board of government, taking part in the most important work of the society. Recently, upon the resignation as president of the Union of Mr. William H. Baldwin, who has served in that position for 39 years, the unanimous choice of the Union for the succession to the office fell upon Mr. Locke, and this accounts for his retirement from connection with the rubber industry. The new position to which Mr. Locke has been called is one for which his connection with the work of the society has fully prepared him, and not least among the qualifications for the new work is the fact that he is a most pleasing public speaker.

THE SINGAPORE RUBBER WORKS.

THE rubber factory recently established at Singapore, and the first in the Far East [see THE INDIA RUBBER WORLD, June 1, 1907 - page 284], it appears from *The Times of Ceylon*, is an outgrowth from the Nederlandsche Guttapercha Maatschappij (Netherlands Gutta-Percha Co.) The latter company has already been mentioned in THE INDIA RUBBER WORLD as having inaugurated a factory in October, 1899, at 10 Passir Panjang, Singapore, for extracting gutta-percha from leaves, under the process of Dr. P. H. Ledebor. This industry not proving profitable, the works have been converted into a factory for making solid rubber tires, valves, and the like. Locally produced rubber is used and the goods made are intended chiefly for local consumption.

Mr. L. A. van Rijn, who was the manager of the gutta-percha company, is in charge of the rubber factory. Mr. H. N. Ridley, director of the Singapore botanic garden, is quoted by *The Times of Ceylon* as saying: "They have found such a demand that they are increasing their works as fast as they can. I have a pair of tires on my trap made at these works from clot and scrap rubber obtained in the Straits, and they are the best rubber tires in Singapore. The best known carriage builder in Singapore is getting tires made in the place. The tires we are getting from home [England] are very poor ones, made of inferior rubber. There are good markets in India and China for the numerous articles such as tires, valves, plates, and so on that are in constant use and which could be supplied cheaper than from home."

A. C. Harper & Co., of Kuala Lumpur, have been appointed agents in the Federated Malay States.

GERMAN-AMERICAN RECIPROCITY.

THE secretary of the treasury at Washington has notified the customs service, and the consular service has likewise been informed, of a reciprocal commercial agreement between the United States and Germany, announced in a proclamation by the President, accompanied by a copy of the agreement. The agreement becomes effective from July 1, 1907, and is temporary, pending a comprehensive commercial treaty between the two nations. Reduced rates are conceded to Germany on a limited number of articles imported from that country; what was more desired by the Germans is the modification granted in the administration of the customs law, particularly in respect of the valuation of imports. On the other hand, Germany admits a large number of American imports at the rates conceded to "the most favored nation," which in most cases are lower than American products have paid in the past. The official announcement mentions the rates to be charged by Germany on various imports from America, including rubber goods, but an opportunity is not now afforded for presenting a comparison between these and the rates paid hitherto. In general, however, lower rates are accorded to rubber goods. An authority in the American trade estimates that the rate paid on imports of American rubber footwear has worked out at about 25 per cent. *ad valorem*, and that under the new agreement it will amount to 14 per cent.

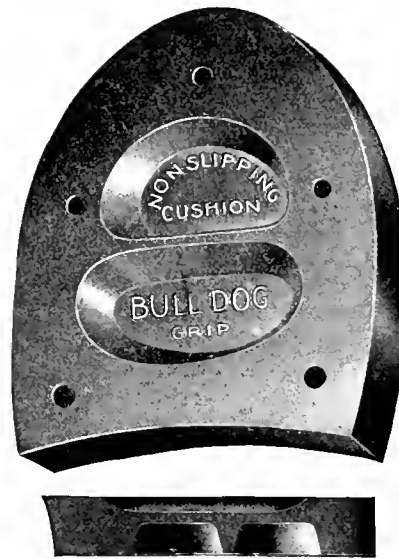
OBITUARY.

JOHN A. WALKER, vice president and treasurer of the Joseph Dixon Crucible Co., died at his home in Jersey City, New Jersey, on May 23, in his seventieth year. He was born in New York city, was prepared for college in a private school, chose a commercial career, served his country in the civil war, and in 1867 became connected with Joseph Dixon & Co. A year later the present Dixon corporation was formed, with Mr. Walker as secretary, to which position was gradually added the work of

manager, until 1891, when he was elected to the dual office of vice president and treasurer. Mr. Walker was during all these years a forceful part of the management of the company, contributing in a vital way to its steady development, and his whole career was a continual story of success. In connection with their large production of lead pencils the Dixon company have been extensive users of india-rubber, and for a number of years have operated a rubber factory of their own. Mr. Walker was a director in several important financial institutions, a member of the New York Chamber of Commerce and the Jersey City Board of Trade, and had served as a member of the Jersey City Board of Education and a trustee of the Jersey City Public Library.

PNEUMATIC CUSHION HEEL.

AN ingenious and valuable development in the line of rubber heels is the Anderson Improved Pneumatic Cushion Heel, covered by patents granted to W. G. Anderson. This heel is not only resilient, but of great comfort to the wearer, since it



PNEUMATIC CUSHION HEEL.

will not slip or carry mud or pick it up. Another claim made for this heel is that it is arch supporting. It is particularly comfortable to feel a soft elastic cushion beneath the arch of the foot. The larger of the illustrations shows the double suction chamber with the cross bar reinforcing the diaphragm. The back of the heel is formed so as to contain an air chamber. The smaller cut more fully illustrates the formation of the heel—the tread surface and the inner chamber as well.

When applying the rubber heel to a shoe, the leather must be smoothed off and the contact surface covered with cement. The heel is then nailed to the shoe in the usual manner and as soon as the cement hardens it will be found by pressing on the diaphragm or the cross bar that there is an air-tight chamber underneath which forms a springy soft supporting cushion. Mr. Anderson, when asked where he got his idea of the construction of the suction chamber, replied that it was from seeing a fly walking up a window pane, and realizing that it was wearing a cushion heel. He started to study the fly's foot under a microscope and the Anderson Improved Pneumatic Cushion Heel was the result.

WANTS AND INQUIRIES.

(412) WHERE can sheet aluminum for making brands be secured?

(413) Wanted addresses of firms handling supplies for rubber stamp manufacturers.

(414) Names of manufacturers of insulating and general rubber machinery who can furnish information regarding the same are wanted by a foreign house.

(415) Who manufactures or imports pure tar?

(416) Can seed of "Maniçoba" or Ceará rubber be obtained in this country?

(417) New or second-hand gutta-percha masticator wanted, if in good condition.

(418) Wanted the address of W. H. Bennett, rubber technologist.

RUBBER INTERESTS IN EUROPE.

DUNLOP TYRE DIVIDENDS.

THE rate of dividends of the Dunlop Pneumatic Tyre Co., Limited, for the past business year was reported in THE INDIA RUBBER WORLD May 1, 1907 (page 241). The payments were dated April 8, and the amounts involved were:

On the preference shares (5 per cent.)	£24,874
On the ordinary shares (8 per cent.)	500,000
On the deferred shares (5 per cent.)	24,008

Total for the year £588,882

The company paid an *interim* dividend of 5 per cent. on the preference shares on May 1, amounting to £24,874, and have announced for July 1 an *interim* dividend on the ordinary shares amounting to £25,000 and on the deferred shares of £24,500, a total since April of £69,374. The total disbursements, including the yearly dividend, within three months amount to £102,240 [£879,571.26], not including dividends of £69,374 of the affiliated Dunlop Rubber Co., Limited, declared on April 17.

CALLENDER'S CABLE AND CONSTRUCTION CO.

THE trading profits of Callender's Cable and Construction Co., Limited, for 1906, were £1,2089, or £1,000 less than in the preceding year, which was the best in the company's history. The net profit came out at £54,050 [£293,224.25], against £51,765 in 1905. The high price of copper has affected the company's business, and their report refers to a "waiting policy" on the part of many of their customers, which is regarded as in keeping with a widespread tendency among consumers of copper to hold off from buying until a lower price level has been reached. The company paid £13,500 in debenture interest (from gross profits), £10,000 in preference dividends, and £26,250 in ordinary share dividends. The company have continued the policy of taking over, wholly or in part, undertakings which widen the company's basis or relieve them to a certain extent of competition. The Anchor Cable Co., Limited, whose works at Leigh, Lancashire, were purchased in 1903, have been completely re-organized, and that acquisition is contributing to the profits of Callender's. They have £42,170 invested in St. Helens Cable and Rubber Co., Limited (Warrington), and £80,320 in other companies. Callender's Bunnies, Telegraph and Waterproof Co., Limited, was formed in 1882 and took its present name in 1890. The capital in the latter year was £200,000, since increased to £375,000, with an issue of £300,000 in 4 1/2 per cent. debentures. The quietness in home business of late has been offset by good orders from the Far East, South America, Mexico and Canada.

GREAT BRITAIN.

THE business of R. & J. Dick, of the Greenhead Works, Glasgow, manufacturers of gutta-percha and balata goods, and particularly balata belts, has been sold, as from January 1, 1907, by the trustee of the late James Dick, the last surviving partner, to parties who will continue the business under the old name. The brothers Robert and James Dick began business in 1849. The former died in August, 1891, and the latter in March, 1902, each leaving a handsome fortune in addition to their interest in the works.

A new company under the style of Premier Waterproof and Rubber, Limited, will carry on the business purchased from the liquidation of R. Cohen, Limited, waterproof and rubber manufacturers, at the Bromby Works, Ashley lane, Manchester. Hugo W. Hassburger has been appointed managing director, and additional machinery has been laid down. The company was registered May 16, with £50,000 capital, of which £30,000 is in preference shares.

Claudius Ash, Sons & Co. (1905), Limited, report a profit for 1906 of £83,350. The dividend of 5 1/2 per cent. on the preference shares, 3 per cent. on the ordinary shares for the first half of 1906 and 5 per cent. for the second half, amounted to £52,820

[£257,548]. As the company is engaged in the manufacture and sale of dental plates and other dentists' materials.

The appeal of Suter-Kelley Co., Limited, to the House of Lords, against a judgment given in the court of appeal in 1906, was heard on May 14. The appellants were Warrington, Weston & Co., who it was claimed had been guilty of infringing the appellants' patent for a method of manufacturing rubber, but the judgment given in the appeal court was upheld by the Lord High Chancellor and their lordship.

GERMANY.

THE Hannoversche Gummi- und Kautschuk-Fabrik, in spite of the long continued strike of their workers, were able to pay the usual dividend of 6 per cent. for the last business year, and report good prospects.

Frankfurter Asbestwerke, Aktien-Gesellschaft (formerly Louis Wertheim), at Frankfurt a. M., Accounting for the ninth business year (1906) show net profits of 108,880 marks [£8,400]. Dividends, 7 per cent. on the capital of 1,200,000 marks, dividends in the preceding three years, 3, 6 and 5 per cent. respectively.

Vereingete Gummiwaren-Fabriken, Harburg-Wien, continue active building operations at Harburg and Elbe. Before their fire in October, 1905, drawings had been prepared for the reconstruction of their factory. The destruction of several of the buildings at that time called at once for a large amount of new construction work, which, as it progresses, not only replaces the burned-out departments, but carries out the plans for a more modern factory throughout. The success of the International Guttah-Gesellschaft, Hoff & Co. has been such as to render necessary a much larger building than has been devoted to it in the V. G. F. plant, and this building is to be given up to the tire department, and a building for the guttath work, twice as large, erected adjoining the new Harburg docks being constructed as part of the harbor improvements for which the city of Harburg is expending 57,500,000 marks.

AUSTRIA-HUNGARY.

Owing to the amalgamation with the Kabelfabrik Aktien-Gesellschaft (formerly Otto Bondy), of Vienna, of an important wire-drawing establishment, the name has been adopted of Kabel-Fabrik und Drahtindustrie Aktien-Gesellschaft. In addition to the manufacture of hard and soft rubber goods and insulated wires, the company will now produce copper, bronze, and steel wires.

FRANCE.

THE Etablissements Boissac, at Lyons, have assumed the title Société pour l'Exploitation des Procédés Gentesch, or, more simply, "Compagnie Gentesch," for the exploitation of the "new gutta-percha" under Gentesch's patents. The capital is 2,300,000 francs [£441,000].

Michelin et Cie., of Clermont-Ferrand, are reported to be the owners of a rubber plantation of 1,200 hectares [2,905 acres], near Baurière, in the Brazilian state of Ceará. The trees are of the "mangoba" species, or *Mangifera indica*.

ITALY.

PIRELLI & Co., the important rubber manufacturers of Milan, have decided to increase their capital from 7,000,000 to 10,500,000 lire [£20,26,500], by the issue of 7,000 new shares of 500 lire each.

SWEDEN.

THE Svenska Gummi-Fabriks Aktiebolaget, makers of no longer rubber goods at Gästved, reported gross profits for 1906 of 95,784 kronen [£25,670.11] and paid a dividend of 10 per cent. [See THE INDIA RUBBER WORLD, November 1, 1906, page 32].

RUSSIA.

THE firm Pychlan & Brant, at Moscow, dealers in technical (mechanical) and surgical rubber goods, has been succeeded by a public company under the same style, with a capital of 400,000 rubles [£200,000].

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE reclaiming plant of The Aladdin Rubber Co., near Barberton, was practically wiped out by fire on June 7, which caused about \$75,000 damage. The origin of the fire has not been ascertained. The \$4,000 Corliss engine and the boiler were not destroyed, but all of the process machinery and about 90 tons of rubber were a total loss. The company began operations in October last and were doing a good business. It is likely that the plant will be rebuilt in Akron where the company have their offices. The company carried considerable insurance.

The B. F. Goodrich Co. are keeping a gang of workmen employed night and day upon the new factory and office building which they are having erected at the corner of South Main and Rubber streets. The office building will be one of the finest structures of the kind in the city.

Referring to a published report that The Diamond Rubber Co. will engage in the manufacture of insulated wire, they state that while they have been figuring upon something of the kind no decision has been reached in the matter.

The Diamond Rubber Co. are erecting a new building in connection with their factory in Akron for the manufacture of the Marsh tire rim which, while they have controlled it for some time past, has been manufactured at Columbus, Ohio, by the Bryant Steel Wheel and Rim Co. As soon as the Columbus plant can accumulate a sufficient supply of stock to permit of the removal of the business to Akron the change will be made.

The Rubber Products Co., operating the plant formerly controlled by the Alden Rubber Co. at Barberton, are making some important improvements in the works, one of the most recent of which was a new press room. The number of the employees have been increased and the company's facilities enlarged considerably.

Alexander Adamson, owner of Adamson's foundry and machine shop, has purchased five acres of land in East Akron, which has given rise to a report that the business which he is conducting in the manufacture of rubber machinery is to be taken over by a large company of which he will remain manager, though as yet nothing definite is to be reported. The Adamson foundry has in hand large orders for hydraulic presses for the Michelin Tire Co.'s factory at Milltown, New Jersey.

Considerable local interest is felt in the French *Grand Prix* automobile contest on July 2, owing to the fact that the car which Walter Christie is to drive will be fitted with Diamond tires.

Mr. Arthur H. Marks, vice president of The Diamond Rubber Co. (Akron, Ohio), has been elected secretary of the Akron Automobile Co., and inaugurated an active campaign looking to the inclusion in the membership of the club every automobile owner in the city. Mr. Charles C. Goodrich, owing to his intended removal from Akron, lately resigned the presidency of the club, being succeeded by Mr. M. Otis Hower. Mr. Fred. Work is vice president and the Hon. George W. Crouse treasurer. Mr. Marks says that this city enjoys the distinction of having more automobiles than any other of its size in the United States. There are 325 licensed cars in Akron, or one for every 200 residents.

Superintendent Freedman, of the Stein Double Cushion Tire Co., has sailed for Europe with the idea of being absent about three months.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

SAN FRANCISCO as a city continues to undergo some remarkable experiences. The mayor, Eugene Schmitz, has been convicted of the crime of extortion, which involves imprisonment, and he now awaits sentence. The political "boss,"

Abe Ruef, who was largely responsible for both the rise and the fall of Schmitz, has made a confession of crime and also awaits sentence. Every member of the city's board of supervisors has confessed to bribe taking. Added to the political muddle, the business men have to contend with the hardships which have been occasioned by all sorts of strikes.

While retail business is naturally slow on account of these troubles, and every line of business is inconvenienced, a good thing is the fact that the strikes have not put a stop to activity in rebuilding the city, though the railways have been interfered with in delivering freight, and construction material has sometimes been scarce. There has been a stringency of money, too. But crops on the Pacific coast promise to be unusually big this year, which will put more money in circulation. Bank clearings are surpassing former records; ocean cargoes are larger than ever before; the city is being better administered, and the end of the labor troubles is believed to be in sight. On the whole San Francisco people are taking these disturbances as much as a matter of course as they do their three meals a day, and as somebody in the rubber trade has said, they are getting fat on them.

There has been no change in the management of the Gorham Rubber Co., as might be inferred from some reports that have gone out. Mr. F. S. Sargent is still manager of the establishment; and he reports a degree of activity in trade that would indicate that the rubber branch is one of those least affected by the current troubles.

The Pennsylvania Rubber Co. have taken a ten years' lease on No. 512 Mission street, and contracted for the addition of two stories to the building. Business has been opened with Mr. L. L. Torrey in charge, and several carloads of stock are on their way from the factory. From the San Francisco store branch stores will be operated at Los Angeles and Seattle.

Mr. R. H. Pease, president of the Goodyear Rubber Co., is well satisfied with the situation in the rubber trade. He says that naturally in the summer months trade will be less active, but May this year was the best May they have ever had, and the orders for fall deliveries are larger than ever before at this date. Work is progressing on the new twelve-story building near their old location on Market street, which they expect to occupy before next summer. Mr. Pease and his family will spend the present summer in Portland.

Mr. C. F. Crosby, formerly with the Washington Rubber Co. in Seattle, has come to San Francisco to take a position with the Pacific Tool and Supply Co. He reports the rubber trade at Seattle as active.

The manager of the Pacific Coast Rubber Company, Mr. Norton, states that trade keeps up at its exceptionally brisk pace, and that the outlook, judging from the prosperous condition of the entire State, is that good conditions will prevail during the coming year.

GUAYULE INTERESTS.

A NEW company in the guayule rubber interest is Compañia Guayulera de Torreon, S. A., composed principally of citizens of Torreon, Mexico, where the company have their headquarters and are planning to erect a factory with a capacity for producing 12 to 15 tons of rubber per day. The company are reported to own 858,000 acres of land, on which the guayule plant is abundant, besides which they have contracted for the guayule on the extensive ranch, "La Bahia," owned by General Jeronimo Treviño. Lic. Manuel Garza Adalpe is president of the new company and G. P. Peña secretary. The company will begin business with a capital of \$300,000 (Mexican).

The declared value of guayule rubber exports from Torreon, Mexico, during 1906 totaled \$917,571 (gold), according to the United States consul, against \$125,478 in 1905. Guayule first appeared on the consular agent's records on April 3, 1905.

News of the American Rubber Trade.

CHANGES OF OWNERS AT RUTHERFORD.

THE plant of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey) was advertised by the receivers to be offered at public sale on June 7. They received an offer for the property at an earlier date, however, which was accepted by the receivers under the direction of the court, the offer being from F. G. Mott, Jr. (general manager), and others identified with the Trident Tire Co., No. 1503 Broadway, New York. Possession was taken at once, and the manufacture begun of the "Trident," a new puncture proof tire. Title to the Rutherford plant, however, has been taken by a new corporation, The Electric Rubber Co., with \$1,000,000 capital authorized, articles of which were filed under the New Jersey law May 24, 1907, by Walter H. Bond, No. 32 Broadway, New York; William J. Conkling, Orange, New Jersey; and Oscar C. Miller, No. 800 Broad street, Newark, N. J. This company is understood to embrace interests identical with those of the purchasers of the Rutherford plant.

The former owners of the plant were incorporated in November, 1903, as the Electric Rubber Manufacturing Co., and engaged in the manufacture of tires, which was suspended at the end of 1906, when the company became embarrassed and receivers were appointed.

THE MICHELIN AMERICAN FACTORY.

THE Michelin Tire Co.—the American corporation with \$3,000,000 capital authorized and formed under the laws of New Jersey March 12, 1907, to operate a branch factory of Michelin et Cie. (Clermont-Ferrand, France)—have under construction at Milltown, New Jersey, buildings and equipment designed for an output of 1500 motor tires daily, under the same formulas and processes as are used by the parent company. They advise THE INDIA RUBBER WORLD: "Our buildings and machinery are modern in every respect, no expense being spared to make this the most complete rubber mill in the world. We shall soon be ready to present to the trade Michelin tires made in America." The president of the American company is Monsieur Edouard Michelin, the head of Michelin et Cie. in France, and the vice-president, Monsieur A. Fountaine, formerly at Clermont-Ferrand, is in charge of the new factory.

The Michelin Tire Co. have acquired the factory of the International Automobile and Vehicle Tire Co., incorporated in New Jersey April 15, 1899. The factory was purchased by the latter from the United States Rubber Co., having been that long operated under the name Meyer Rubber Co. The transfer of this property will not be made before the end of summer, but meanwhile the Michelin people are erecting additional buildings.

MR. PAINE GOES TO LONDON.

THE United States Rubber Co. announced, under date of June 13, that in view of the growth of the company's foreign business, Mr. Eben H. Paine will be located in London as advisory director of the United States Rubber Co., Limited, their English corporation, and have a general supervision of their entire foreign trade. Mr. Paine purposes leaving New York on July 3 to undertake the duties of his new post. Mr. Paine has been connected with the sales department of the United States Rubber Co. since its organization, 15 years ago, but years before that he was interested in the sale of rubber goods. His career in the rubber trade began in connection with the Boston firm of Clapp, Evans & Co., about 35 years ago. In 1877, when the American Rubber Co. was organized by Robert D. Evans, Mr. Paine joined its forces, becoming in the end the general selling agent. He held this position when the United States Rubber Co. came into existence, involving the merger of the American Rubber Co., with Mr. Evans, president of the consolidated companies.

Mr. Paine then removed from Boston to New York, becoming identified with the sales branch of the new and larger corporation. By the resignation of the late Charles L. Johnson as director of sales of the United States Rubber Co., in May, 1897, the position of chief selling agent fell to Mr. Paine, already in charge of the New York selling agency, and this position he has continued to fill up to this time.

From its beginning it has been a settled policy of the United States Rubber Co. to cultivate an export trade along systematic lines, in pursuance of which an European depot was established several years ago in London, and developed finally into a separate public company, the United States Rubber Co., Limited, registered in London February 16, 1905. It is in connection with this company that Mr. Paine transfers the scene of his activity in the trade across the Atlantic, where he has already visited the agencies of his company several times in the past. In this connection it may be mentioned that since the merger with the United States Rubber Co. of the Rubber Goods Manufacturing Co., the sale of the mechanical and kindred rubber goods products of the latter has been carried on under the style The Anglo-American Rubber Co., on Holborn viaduct, London, and presumably Mr. Paine will be expected to devote part of his energies to the latter enterprise.

* * *

THE position vacated by Mr. Paine's transfer has been filled by the appointment of Mr. Edward R. Rice as manager of sales in charge of all sales, including the branch store department, which has been in Mr. Rice's hands hitherto. All selling departments will be under the direction of a committee on sales composed of Homer E. Sawyer, chairman; Lester Leland, Walter S. Ballou, John J. Watson, Jr., Henry B. Hubbard, secretary.

NEW TIRE TUBE FACTORY.

THE Victor Auto Tire Repair Co. (Passaic, New Jersey) will be operated hereafter under the name The Victor Auto Tire and Tube Co., the change in title making their entrance into the manufacture of inner tubes. For this purpose they have acquired premises in Waterhouse's Mills. The company also manufacture repair stock and continue to repair and retread pneumatic tires. The company were incorporated October 18, 1906. James Maitland is manager and Samuel W. Hall secretary.

AN AMERICAN BRANCH OF CLAUDIUS ASH.

A NEW factory for the production of dental rubbers has been established, being a branch of the important English corporation, Claudius Ash, Sons & Co. (1905), Limited. The American office is at No. 30 East Fourteenth street, New York, and the factory at Irvington (near Newark), New Jersey. The original business of Claudius Ash & Sons, manufacturers of dental materials, was formed in 1825. It expanded in time into two businesses, one manufacturing and one mercantile, which in 1905 were combined in one public company, capitalized at £1,000,000 [= \$4,866,500]. At that time the profits for the three years preceding were reported to have averaged £71,581 [\$348,349] per annum, covering the manufacture and sale not only of dental rubbers, but of dental materials of all kinds. The American branch factory has been inaugurated under the supervision of the managing director in charge of the English factory.

A RUBBER STORE AT SPOKANE.

THE Washington Rubber Co., Inc., are building a modern structure containing about 25,000 feet of floor space to accommodate a stock of merchandise which they have arranged to carry at No. 708 Main avenue, Spokane, Washington. The company are selling agents for the Pacific Coast Rubber Co. and the

business in the Spokane territory has been handled formerly through the company's other Pacific coast stores. Owing to the increase of business in that territory it is now considered necessary to put in a first class stock at Spokane.

BOS'ON RUBBER SHOE CO.'S AFFAIRS.

THE report of condition filed by this company as of March 31, 1907, with the Massachusetts state authorities, with the corresponding figures for the preceding year, is as follows:

ASSETS.		March 31, 1907.	March 31, 1906.
Real estate.....		\$768,525.00	\$768,525
Machinery.....		375,515.00	375,515
Merchandise and stock in process.....		4,394,856.51	3,540,003
Cash and debts receivable.....		1,932,444.34	2,041,384
Patent rights.....		2,000.00	.....
Special contract U. S. Rubber Co.....		4,800,000.00	4,800,000
Miscellaneous.....		10,670.00	16,620
Total.....		\$12,290,010.91	\$11,542,047
LIABILITIES.			
Capital stock.....		\$5,000,000.00	\$5,000,000
Accounts payable.....		700,146.11	428,114
Funded debt.....		4,800,000.00	4,800,000
Floating debt.....		650,000.00	.....
Interest on bonds not due.....		40,000.00	40,000
Profit and loss.....		1,093,864.80	1,273,933
Total.....		\$12,290,010.91	\$11,542,047

WOONSOCKET RUBBER CO.'S AFFAIRS.

THE report of condition of the Woonsocket Rubber Co., filed with the Massachusetts authorities as required of all corporations doing business in that state, for the year ending March 30, 1907, compared with the figures for the preceding year, is as follows:

ASSETS.		1907.	1906.
Real estate.....		\$887,218	\$897,543
Machinery.....		281,745	202,842
Material.....		2,618,842	2,429,542
Cash and debts receivable.....		152,714	324,322
Adjustment of inventory.....		1,108,094	1,108,084
Loans receivable.....		1,800,000	1,800,000
Miscellaneous.....		1,178	.....
Total.....		\$7,240,691	\$6,943,233
LIABILITIES.			
Capital stock.....		\$3,000,000	\$3,000,000
Accounts payable.....		931,927	185
Special debt.....		1,800,000	1,800,000
Surplus fixed.....		1,613,900	1,613,900
Profit and loss.....		104,864	529,148
Total.....		\$7,240,691	\$6,943,233

AMERICAN RUBBER CO.'S AFFAIRS.

THE report of condition filed as of March 31, 1907, by the American Rubber Co. (Boston), with the Massachusetts commissioner of corporations, as required by law, embraces the following details:

ASSETS.		LIABILITIES.	
Real estate.....	\$188,008.22	Capital.....	\$1,000,000.00
Machinery.....	136,027.22	Accounts payable.....	34,938.79
Merchandise.....	1,813,843.27	Special bills payable.....	600,000.00
Cash and receivables.....	668,989.25	Floating debt.....	200,000.00
Special bills rec'd.....	600,000.00	Surplus.....	865,784.01
Miscellaneous.....	7,915.17	Profit and loss.....	714,060.33
Total.....	\$3,415,834.13	Total.....	\$3,415,834.13

THE ROSENDALE-REDDAWAY COMPANY.

AN addition is being made to the plant of The Rosendale-Reddaway Belting and Hose Co., Limited (Newark, New Jersey), in the shape of a two-story building, 50x100 feet, to be used for drying purposes. The company makes "Camel Hair" belting, and also stitched canvas belting and linen fire hose, but no goods into which rubber enters. Mr. Francis Reddaway, of

F. Reddaway & Co., Limited, of Manchester, England, is individually a shareholder in this company and chairman of its board, but otherwise it has no connection with the Manchester firm. The company dates from a visit made by Mr. Reddaway to America some 15 years ago.

THE RUBBER TIRE TRADE IN TEXAS.

THE Appel & Barwell Rubber and Tire Co. (Dallas, Texas), formed in October, 1905, has a well-equipped vulcanizing plant, and facilities for not only mending ordinary tire repairs, but retreading or completely rebuilding casings. Their plant is referred to as the only one of the kind in the Southwest. The territory is large, but not yet much developed in the automobile line. There are about 250 cars in Dallas, however, and the number is expected to double within a year. There are a number of stage lines in the western part of Texas which operate from two to twenty motor cars each, equipped with rubber tires. The firm are Southwestern representatives for the International Rubber Co. (Milltown, New Jersey), and carry a wholesale stock of automobile tires, bicycle tires, and solid rubber tires. They employ a traveling salesman.

J. SCHNURMANN'S AMERICAN AGENCY.

FELIX SALOMON & Co., No. 140 Nassau street, New York, have been made sole agents for the United States and Canada by J. Schnurmann, a prominent rubber scrap dealer of Downham Mills, London. With a view to beginning his representation in this country in an active manner Mr. Schnurmann has sent Mr. Weber from his office to join the Messrs. Salomon for a few months, to aid in placing various propositions regarding waste rubber before dealers and manufacturers.

ACKER PROCESS CO. TROUBLES.

IN the matter of Aker Process Co., bankrupt [see THE INDIA RUBBER WORLD, June 1, 1907—page 201], the trustee of the estate has made petition to be allowed to offer at public sale the several patents issued to C. E. Aker. The referee in bankruptcy, E. A. S. Man, will grant a hearing on the petition on July 1, at No. 1 Montgomery street, Jersey City. A meeting of creditors is called for the same time. The trustee reports in hand \$175,308.65 and a first dividend of 5 per cent. for the creditors is suggested.

ELECTRICITY IN A MALDEN FACTORY.

THE Boston Rubber Shoe Co. have decided to establish at their Edgeworth factory one 350 kilowatt 600 volt alternating current generator, to be used for power. It will be driven from one of their cross compound engines which is not loaded to full capacity. The current will be used to operate their washing mills, dye house, machine shop, and printing office, all of which are located at some distance from their existing power plant, and also the Malden Last Co. factory. A local electric company has been contracted with for a certain amount of current for use while the new apparatus is being installed. It is these plans which, doubtless, have given rise to mistaken reports that the Boston Rubber Shoe Co. purpose introducing electricity for running their factories.

MARTIN-EVANS CO.

THE Martin-Evans Co. was mentioned in the last INDIA RUBBER WORLD (page 290) as succeeding the New York-Broadway Rubber Tire Co., but the change is only in name. The interests in the new company are identical with those of the old. The change of name was thought advisable on account of the company going into automobile supplies, and no longer confining itself exclusively to tires. The company will continue to handle the New York-Broadway brands of solid tires (internal and side wire) and "Tourist" inner tubes; also, the products of the Firestone Tire and Rubber Co. (Akron, Ohio). The company has a large pneumatic tire repair shop and facilities for applying solid tires, at No. 1186 Bedford avenue, Brooklyn, and maintains a New York office at No. 256 Broadway.

UNITED STATES RUBBER CO.—SHARE ISSUES.

THE governing committee of the New York Stock Exchange on June 12 listed 8,000 additional shares of the first preferred stock of the United States Rubber Co., and granted an extension of time to November 1, 1907, in which to list, under authorizations already granted, 24,130 additional shares first preferred stock and 1,514 shares additional second preferred stock. The following is a summary of the stock issues of the United States Rubber Co.:

First preferred. Authorized by the charter, \$40,000,000; issued and listed on the Stock Exchange, \$30,203,000; total amount authorized by the Exchange to be listed, to date, \$38,070,000.

Second preferred. Authorized by the charter, \$10,000,000; issued and listed, \$0,848,000; authorized by Exchange to be listed, \$10,000,000.

Common. Authorized by charter, \$25,000,000; issued, the whole amount; listed, \$23,660,000. The remainder of this issue (13,310 shares) is in the treasury of the Meyer Rubber Co., a subsidiary company.

The 8,000 additional shares last listed were the remainder of a block of 58,000 shares of first preferred stock held by the Meyer Rubber, details regarding which appeared in THE INDIA RUBBER WORLD April 1, 1906 (page 221). A report to the Stock Exchange stated: "Said Meyer Rubber Co. has sold said 8,000 shares on the basis of \$100 per share, or for the sum of \$800,000, which sum has been received in cash in its treasury for its corporate purposes and ultimately for the corporate purposes of the United States Rubber Co."

It may be of interest to recall, in connection with the 24,130,000 of additional first preferred shares the date for listing which has been extended to November, a statement in the last annual report of the president of the United States Rubber Co.: "There is about \$3,000,000 of the preferred stock of the Rubber Goods company still unexchanged, as to which your directors have thought it as well to take no action, at least for the present."

NEW ENGLAND RUBBER CLUB.

THE annual summer outing of the New England Rubber Club will be held on July 17 at the Country Club, Brookline, Mass. This exceedingly exclusive club opens its doors and gives over its golf links, baseball grounds, tennis courts, and broad reaches of woods and fields to the New England Rubber Club as an appreciation of President Stedman, one of the Country Club's most prominent and popular members. The whole of the Country Club belongs to the New England Rubber Club on the day mentioned, with the exception of the portion of the clubhouse that is always reserved for the lady relatives of the club members. A circular giving full information regarding the outing, transportation, sports, and so on, will be mailed by the secretary to all members of the New England Club in due time.

FACTORY TRAFFIC MANAGERS ORGANIZE.

THE traffic managers of a number of large manufacturing concerns in Hampden county, Massachusetts, have organized the Hampden County Traffic Association, with headquarters at Springfield, for the mutual promotion of their interests as shippers. The executive committee includes F. R. Lyman, traffic manager of The Fisk Rubber Co. (Chicopee Falls), whose work last year [see THE INDIA RUBBER WORLD, June 1, 1906—page 301] in connection with the classification of pneumatic tires as freight on railways resulted in a material reduction in rates on such goods over a considerable part of the country.

A TRAINLOAD OF RUBBER SHOES.

THE Apsley Rubber Co. (Hudson, Massachusetts) recently made a shipment of rubber footwear to their Chicago agents, M. D. Wells Co., which filled a train of ten cars of the Boston and Maine railroad. A photograph was made of the train, each car labeled with the company's name, with the factory appearing in the background. The company have had made from this a "half tone" picture 42 inches in length which gives a far

better idea than any mere statistics of the large scale on which the rubber shoe trade is conducted. It is stated that the deliveries due the Chicago agents would fill four more similar trains.

A NEW TALC MILLING PLANT.

THE Massachusetts Talc Co., Inc. (Boston), extend an invitation to purchasing agents for rubber factories to visit their new milling plant, recently completed at Zoar, Massachusetts, on the Fitchburg division of the Boston and Maine railroad. The company have now been milling talc for something less than two years, but they have already added a large number of rubber manufacturers to their list of customers. Their new mill has a daily capacity of 40 tons of high grade domestic talc or soapstone.

GOODYEAR TIRE AND RUBBER CO. AGENCIES.

THE Goodyear Tire and Rubber Co. (Akron, Ohio) have established a sales branch at Pittsburgh, at No. 688 Center avenue, in charge of Mr. C. A. Vetter. They have also opened a new branch in Philadelphia, known as the Goodyear Tire Agency, at No. 1404 Ridge avenue, in charge of Mr. L. S. Hall.

HARTFORD RUBBER WORKS CO.

H. E. Fitts, formerly manager of the company's branch at Detroit, Michigan, having been appointed sales manager of the company, with headquarters at Hartford, has been succeeded at Detroit by C. W. Hatch. Walter Clapp, Jr., has been appointed branch manager at Buffalo, New York, to succeed George Osterdorf. A. W. Kirk, who formerly traveled for the company in the South, is opening a store in Atlanta, Georgia, at No. 55 Auburn avenue, and will be the company's representative in that city.

OWED \$38,478 FOR RUBBER TIRES.

SCHEDULES in bankruptcy of the E. J. Willis Co. (New York), against whom a petition in bankruptcy was filed on April 16, show liabilities of \$174,042, of which \$12,114 are secured, and good assets of \$52,214, besides \$28,426 in accounts mainly disputed and considered uncollectable. The creditors include four rubber tire manufacturers, with claims amounting to \$38,478. It is thought that the company may be able to compromise with their creditors and continue business.

TRIBUTE TO ARTHUR W. CLAPP.

AT a meeting of the board of directors of the Rubber Manufacturers' Mutual Insurance Co., in Boston, the following tribute to the late Arthur Winship Clapp, at the time of his death president of the company, was ordered spread upon the company's minutes:

THE sad news of the sudden death on April 17 last of our honored President, Arthur Winship Clapp, came as a great shock and profound sorrow to the directors of the Rubber Manufacturers' Mutual Insurance Co.

Entering the board of directors in January, 1894, in succession to his elder brother, the late Eugene H. Clapp, who was one of the founders of the company and its first vice president, he at once by his intelligence and grasp of affairs, by his uprightiness and force of character, and by his tact and knowledge of men, took a prominent part in our deliberations and decisions; and his unanimous elevation to the presidency of the company followed most naturally in July, 1904, from the victory for the first time in our history in that office.

During those thirteen years he has served our interests with the greatest zeal, enthusiasm, and loyalty combined with a thorough knowledge of our company's affairs and perfect fearlessness and frankness in meeting the many questions which came up from time to time for our consideration.

As none of his fellow directors had any intimation of his failing health, the sense of our loss and the shock we now experience recall the more profound and distressing, and we wish to record, however inadequately, our testimony to his fine qualities of head and heart and to the great personal regard for him as a loyal friend and co-worker.

Let it be that this testimonial be spread upon the rolls of the company, and that a copy be sent to his family, to whom we tender our warmest sympathy in their great sorrow.

GEORGE H. HOOVER,
GEORGE B. HODGMAN,
ROBERT BAICHELLER,
Committee.

Boston, May 7, 1907.

ADVERTISING A CITY.

THE city of Memphis is demonstrating that it may pay a city as well as a business house to advertise liberally, which it has been doing through the local Industrial League, now in its sixth year. The League claims to have been the means of locating in Memphis 86 factories, capitalized at \$22,020,000, and giving employment to 10,000 people. The League recently elected as president Mr. H. N. Townner, the head of Townner & Co., Inc., jobbers of rubber goods and mill supplies at Memphis, and one of the largest houses in this field in the whole South.

ALUMINUM FLAKE CO.—ELECTION.

At the annual meeting of shareholders of the Aluminum Flake Co. (Akron, Ohio, June 8), the following directors were elected: R. M. Wanamaker, Frank Reifsnider and W. E. Young, Akron, Ohio; W. H. Hoover, New Berlin, Ohio; and C. K. Reifsnider, St. Louis. C. K. Reifsnider was elected president, Frank Reifsnider vice president and general manager, Mr. Young secretary, and N. P. Goodhue treasurer. The company are engaged in marketing supplies for the rubber trade.

CANADIAN RUBBER CO. NOT ABSORBED.

UNDER this head the New York *Sun* prints a Montreal despatch, dated June 25, as follows: "George W. Stephens, president of the Canadian Rubber Co., gives an emphatic denial to the report that the United States Rubber Co. has secured control of the Canadian Consolidated Rubber Co. 'The United States Rubber Co.,' said Mr. Stephens, 'has not bought a share of stock in the Canadian concern and has not a cent's worth of interest in it.'"

TRADE NEWS NOTES.

THE Hon. Arthur H. Lowe, of Fitchburg, Massachusetts, a member of the board of directors of the Rubber Manufacturers' Mutual Insurance Co., at a meeting of the board in Boston, on June 4, was elected to the office of president, to succeed the late Arthur W. Clapp.

Mr. John J. Watson, Jr., treasurer of the United States Rubber Co., is scheduled to make an inspection trip of the plants and agencies of the company, extending as far west as the Pacific coast, and consuming the present month and the first half of August.

The Broadway Rubber Tire Works, at No. 1900 Broadway, New York, are engaged in the repairing of automobile tires, besides which they deal in tires, holding agencies for both domestic and foreign makes.

Ajax-Grieb Rubber Co. (Trenton, New Jersey) are putting a line of bicycle tires on the market—single tubes, branded with the makers' name.

The Electric Cable Co. (New York) are contemplating an addition to their plant at Bridgeport, Connecticut, to be erected probably next fall. It will be devoted to the manufacture of rubber insulated wires, which they intend beginning soon in their present buildings. The company was organized early in 1906 to manufacture "Votax," a non-rubber insulation material.

The treasury department announces a regulation allowing a drawback on the exportation of golf balls made by the Goodyear Tire and Rubber Co. (Akron, Ohio), with the use of imported spun silk, equal in amount to the duty paid on the imported material used, less 1 per cent.

C. S. Pelton has become manager of the Buffalo branch of the Pennsylvania Rubber Co., succeeding Fred Roblin, who was temporarily in charge and has returned to the motor tire department of the Pennsylvania company's factory.

The Akron Pneumatic Tire and Protector Co. has been organized, at Akron, Ohio, for marketing the pneumatic tires patented by Lemon Greenwald, of that city.

Clark-Hutchinson Co. (Boston and New York) send out an extensive and interesting catalogue of leather and rubber footwear—for the spring of 1907—covering a great variety of goods, including a number of items for women's wear, fitted with rubber heels.

TRADE NEWS NOTES.

THE directors of the United States Rubber Co. have created the position of secretary to the president and elected to that position Mr. John D. Carberry, who for several years has performed the duties now pertaining to it.

Mr. Isaac B. Markey has been elected a vice president of the Eureka Fire Hose Co. (New York), with which he has been connected for 23 years, having filled for several years the office of secretary.

Mr. William W. Wildman, who had charge of the operation of the Milwaukee Rubber Works Co.'s plant as representative of the Milwaukee Trust Co. during the receivership, for some 13 months, made an excellent showing in putting the factory upon a paying basis and building up a surplus that was very welcome to the creditors. The articles of incorporation of the Federal Rubber Co., the recent purchasers of the Milwaukee plant, were filed May 9, 1907, under the laws of Wisconsin.

At a special meeting of the directors of the Joseph Dixon Crucible Co., held May 31, at Jersey City, New Jersey, to take action on the death of Vice President and Treasurer John A. Walker, George T. Smith was elected vice president, George E. Long treasurer, and Harry Dailey was elected director and secretary.

The annual meeting of the shareholders in the Tehuantepec Rubber Culture Co., incorporated under the laws of New Jersey, was held in Jersey City on June 18.

Nazarro, who finished second in 1906 in the Automobile Club of France *Grand Prix*, will drive a F. I. A. T. car, with Michelin tires in this year's *Grand Prix*.

W. K. Philp, until recently at the factory of G & J Tire Co. (Indianapolis), has been appointed manager of that company's New York branch, succeeding Arthur T. Smith, resigned.

PERSONAL MENTION.

MR. ROBERT D. EVANS, formerly president of the United States Rubber Co., has been elected a trustee of the Boston Museum of Fine Arts. Mr. Evans is an enthusiastic art collector, and is the owner of what is regarded as one of the finest private galleries in Boston.

Colonel Samuel P. Colt, president of the United States Rubber Co., was recently at his camp at Mt. Katahdin, Maine, on account of ill health, and is now expected to sail for Europe early in this month, with his brother, Judge Le Baron B. Colt, of the United States Court. Colonel Colt has announced his withdrawal as a candidate for the position of United States senator for Rhode Island.

The citizens of Granby, Quebec, on the return of Mr. and Mrs. S. H. C. Miner from Montreal, where they usually spend the winter, tendered them a reception at the Town Hall, which was largely attended. The town owes much to the business ability of Mr. Miner, to whom it is largely indebted for its rubber and other manufacturing plants, and for years he has served as mayor.

At Easthampton, Massachusetts, on Wednesday evening, June 5, Miss Mollie, daughter of Mr. and Mrs. Franklin W. Pitcher, was married to Mr. Harry Slocum Lewis. Mr. and Mrs. Lewis will be at home after September 2 at Beaver Falls, New York.

Dr. Friedrich Traun, of Dr. Heinrich Traun u. Söhne (proprietors of the Harburg Rubber Comb Co.), of Harburg and Hamburg, was a recent visitor to the United States. Also Herr A. Hoff, of the management of the Vereinigte Gummiwaren-Fabriken Harburg-Wien, of Harburg.

MR. SCHEEL RETURNS TO MAIDEN LANE.

WILLIAM H. SCHEEL, supplier of materials for the rubber manufacture, whose premises at No. 158 Maiden Lane, New York, were burned in April last, and who has meanwhile occupied temporary quarters, returns on July 1 to the old location. All the lines previously handled will be afforded to the trade from new stocks now in hand, or arriving.

NEW MANAGER FOR THE BOSTON WOVEN ROSE.

THE Boston Woven Hose and Rubber Co. have selected, as their new general manager, Mr. George F. Hall, of Watertown, New York, who has made a reputation in the paper trade both as manufacturer and organizer. Mr. Hall was born in Brattleboro, Vermont, August 2, 1868; was educated at the public schools, and at the age of 22 started to learn the paper manufacturing business, beginning at Howland, Maine, with N. M. Jones. From there he went to take charge of the J. & J. Rodgers Co.'s paper mill at Au Sable Forks, N. Y., which position he filled for some six years, during which time he thoroughly familiarized himself with all of the details of paper manufacture and mastered the problem of the preparation of sulphite. A few years later he connected himself with the International Paper Co., being assistant manager of manufacture and sulphite

expert. This gave him the general management of the great sulphite department of the paper trust, and in this position he showed special aptitude as a manager and manufacturer, effecting many economies and materially improving the efficiency of his department. In 1904 he accepted a position as secretary of the St. Regis Paper Co. and Taggart's Paper Co. at Watertown, N. Y., in both of which companies he was financially interested. Here he gave his attention to the manufacturing end and also took an active part in the sales department. Mr. Hall was vice president of the news division of the American Pulp and Paper Trade Association, and is well known and highly esteemed throughout the whole paper trade. He is young, active, and efficient, and while he says of himself that "his knowledge of rubber could be written on the back of a postage stamp," his manifest ability is sure to make itself felt in his new position.

Review of the Crude Rubber Market.

THE market remains quiet. Manufacturers are out of the market to a great extent, but there is no particular pressure of stocks. Prices have declined still further since our last report, reaching finally the level of March, 1904, but at the close of the month the market is firm at the quotations given below. The arrivals at the mouth of the Amazon for the crop year are in excess of the most liberal predictions for the season. The figures for the year last closed (with the last two or three days of June estimated), compared with former years, have been as follows:

Years	1906-07	1905-06	1904-05	1903-04	1902-03
Tons	37,025	34,490	33,000	30,580	29,850

Arrivals at Antwerp (mainly from the Congo) are slightly smaller since January 1 than in previous years, and there appears to be no increase of production in any quarter except in Mexican guayule rubber.

Following is a statement of the prices of Pará grades, one year ago, one month ago, and June 28—this date:

PARÁ.	July 1, '06.	June 1, '07.	June 28.
Islands, fine, new	120 a 121	110 a 111	104 a 105
Islands, fine, old	none here	none here	none here
Upriver, fine, new	124 a 125	112 a 113	110 a 111
Upriver, fine, old	125 a 126	114 a 115	112 a 113
Islands, coarse, new	61½ a 65	62 a 63	61 a 62
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	60 a 61	87 a 88	87 a 88
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	72 a 72½	71 a 72	70 a 71
Caucho (Peruvian) ball	84 a 85	83 a 84	82 a 83
Ceylon, fine, sheet	118 a 119	134 a 135	127 a 128

AFRICAN.

Sierra Leone, 1st quality	94a 95	Lopori ball, prime	102 a 103
Massai, red	94a 95	Lopori strip, prime	96a 97
Benguella	72a 73	Madagascar, pink	82a 83
Acera flake	18a 19	Ikelamba	none here
Cameroon ball	74a 75	Soudan niggers	85a 86

CENTRALS.

Esmeralda, sausage	82a 83	Mexican, scrap	81a 82
Guayaquil, strip	68a 69	Mexican, slab	62a 63
Nicaragua, scrap	78a 79	Mangabeira, sheet	58a 59
Panama, slab	62a 63	Guayule	46a 47

EAST INDIAN.

Assam	93a 94	Borneo	38a 39
Late Pará cables quote:			
Per Kilo		Per Kilo	
Islands, fine	58a 59	Upriver, fine	68a 69
Islands, coarse	28a 29	Upriver, coarse	48a 49
Latest Manáos advices:		Exchange	15 3-10d.
Upriver, fine	68a 69	Upriver, coarse	48a 49
		Exchange	15 3-10d.

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total, 1907.	Total, 1906.	Total, 1905.
	Fine and Medium.	Coarse.				
Stocks, April 30	230	41	=	277	380	611
Arrivals, May	596	579	=	1175	1194	463
Aggregating	832	620	=	1452	1580	1074
Deliveries, May	528	555	=	1083	1293	490
Stocks, May 31	304	65	=	369	287	578
	PARÁ.			ENGLAND.		
	1907.	1906.	1905.	1907.	1906.	1905.
Stocks, April 30	510	267	496	950	1280	355
Arrivals, May	1705	1420	1060	910	555	815
Aggregating	2275	1687	2150	1860	1835	1170
Deliveries, April	1670	1597	1791	800	775	800
Stocks, May 31	605	90	305	1060	1000	370
World's visible supply, May 31	3,091	1907.	1906.	1905.		
Pará receipts, July 1 to May 31	30,460	3,091	2,078	2,143		
Pará receipts, Caucho, same dates	5,000	5,000	5,245	5,004		
Afloat fr. Pará to United States, May 31	202	160	125			
Afloat from Pará to Europe, May 31	835	451	705			

Liverpool.

WILLIAM WRIGHT & Co. report [June 1]:

Fine Pará.—Under the combined influence of a dull demand from the trade and heavy receipts, prices, especially during the last week, have declined rapidly. The total decline for the month is about 3½d. per pound, and at the close prices seem likely to go still lower, although it often happens that a rapid decline is followed by an equally rapid advance. There is a general impression that there is a good deal of undeclared stock. This, in conjunction with the increase in the *craze*, will doubtless show a trend of prices in buyers' favor.

EDMUND SCHULTER & Co. report [May 31]:

There is little doubt that the large increase of supplies from the Amazon during February-May has proved to be in excess of requirements, and that under these circumstances a decline was almost inevitable. It is at present an open question whether the market has found a level, but it must be borne in mind that the excess of supply this season is estimated to contain some 1,500 tons of the 1905-06 season, while reliable reports from Brazil say that all the rubber collected during the present season has come down

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, per pound—show no change:	
Old rubber boots and shoes—domestic	12 a 12½
Old rubber boots and shoes—foreign	10½ a 11
Pneumatic bicycle tires	7½ a 7¾
Automobile tires	9½ a 10
Solid rubber wagon and carriage tires	10 a 10½
White trimmed rubber	12½ a 12¾
Heavy black rubber	5¾ a 6
Air brake hose	3½ a 5
Fire and large hose	35 a 3¾
Garden hose	2½ a 2¾
Matting	11½ a 15

1906. As the crop of 1908, it is, therefore, reasonable to expect no report of a large increase of the crop and, given in normal development of a plantation, the weight of the present stocks may be less acutely felt during the month to come, and a more steady market follow the present depression.

WORLD'S VISIBLE SUPPLY OF PARA, MAY 31.

	1907.	1906.	1905.	1904.	1903.	1902.
Tons	47,333	3,303	20,088	20,301	30,560	4,302
Prices, hard, fine, 4 7 1/2	5 3 1/4	5 8 1/2	4 10	3 10 1/4	3 -	

LIVERPOOL STOCKS OF AFRICAN RUBBER, MAY 31.

	1907.	1904.	1905.	1901.	1902.
Tons	330	507	330	852	834
1905	300	502	1899	605	

Plantation Rubber From the Far East.

WEEKLY EXPORTS—CEYLON PRODUCT

	Pounds.		Pounds.
Jan. 1 to April 8,	93,828	Total, 1907,	100,675
Week ending April 15,	21,054	Same dates, 1906,	95,413
Week ending April 22,	5,033	Same dates, 1905,	37,016
Week ending April 29,	25,357	Same dates, 1904,	28,643
Week ending May 6,	15,353		
Week ending May 13,	50		

Distribution.

Great Britain	100,040	Belgium	1,820
United States	41,407	Australia	700
Germany	9,837	India	112

Total exports of plantation rubber from Ceylon to May 13, including Straits and Malayan produce, 234,835 pounds.

EXPORTS FROM THE STRAITS.

[January 1 to April 20, 1907.]

	Pounds.	Total.	Pounds.	Total.
Great Britain	343,497	7,807	Great Britain	343,497
Europe	23,334	45,867	Europe	23,334
United States			United States	
Japan	15,167	435,702	Japan	15,167

[From Singapore, 360,235; from Penang, 39,467.]

Exports of plantation rubber from the Straits in 1906 reached 1,040,511 pounds, of which 1,028,792 was credited to three of the Federated Malay States (Pahang not yet exporting). The same states exported in January and February, 1907: Selangor, 143,695 pounds; Negri Sembilan, 62,039; Perak, 39,160; total, 244,894.

AT THE AUCTIONS.

ANTWERP, May 23.—Sales included 5,103 kilos of Straits Settlements crepe, at prices ranging from 11.75 to 15.82 1/2 francs [= \$1.21 1/8].

LONDON, June 7.—About 40 tons offered at auction to-day, but

in view of the lack of activity in bidding about two-thirds was "bought in." The highest price paid was 5s. 8d. [= \$1.37 3/4], for washed worm from Gikiyama Kande estate. Fine pale biscuits realized up to 5s. 5d. [= \$1.31 3/4]. Highest price to-day for hard fine Pará, 4s. 7d. [= \$1.11 1/2]. Highest price one year ago for plantation, 6s. 1 1/2d. [= \$1.49]; highest price for Pará, 5s. 3d. [= \$1.27 3/4]. To-day's sales included 3 cases *Castilloa* plantation rubber from the West Indies, not in the best condition, at 3s. 6d. [= \$5 1/6 cents].

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

May 27.—By the steamer Gregory, from Manáos and Pará:	Fine.	Medium.	Coarse.	Cauchó.	Total.
General Rubber Co.	97,000	23,000	127,500	42,700	290,200
A. T. Morse & Co.	14,600	4,000	95,600	53,500	167,700
Poel & Arnold	16,100	5,000	60,700	28,200	110,000
New York Commercial Co.	47,800	14,200	17,000	5,700	84,700
Neale & Co.	5,500	1,700	32,000	13,400	52,600
Edmund Reeks & Co.	13,500	2,800	3,400	2,700	22,400
Hagemeyer & Brunn	9,600	.....	9,000	.....	19,500
Total	204,100	51,900	347,000	146,200	749,200

June 3.—By the steamer Dionatan, from Manáos and Pará:	Fine.	Medium.	Coarse.	Cauchó.	Total.
General Rubber Co.	50,000	17,500	52,400	80,100	218,000
A. T. Morse & Co.	41,400	10,200	40,900	12,600	114,100
Poel & Arnold	30,400	5,500	35,300	37,800	113,000
C. P. dos Santos	18,000	1,400	6,600	18,500	45,500
Hagemeyer & Brunn	23,200	.....	9,200	.....	32,400
New York Commercial Co.	2,100	700	24,100	4,400	31,300
Edmund Reeks & Co.	6,400	1,800	16,600	800	16,600
Neale & Co.	13,400	3,100	3,200	.....	19,700
Total	200,800	40,200	182,300	163,200	595,500

June 14.—By the steamer Maranhense, from Manáos and Pará:	Fine.	Medium.	Coarse.	Cauchó.	Total.
General Rubber Co.	151,700	33,800	61,000	97,100	343,600
Poel & Arnold	49,600	12,000	50,500	30,500	142,600
New York Commercial Co.	45,500	10,000	21,700	47,000	124,200
A. T. Morse & Co.	43,900	5,800	11,600	3,700	65,000
C. P. dos Santos	23,700	3,500	21,500	.....	48,700
Neale & Co.	15,400	3,500	28,600	2,100	49,600
Hagemeyer & Brunn	28,200	.....	15,100	.....	43,300
Edmund Reeks & Co.	10,100	5,400	24,500	.....	40,000
G. Amsinck & Co.	.....	1,300	3,500	.....	4,800
L. Johnson & Co.	.....	.....	.....	43,000	43,000
Total	371,100	75,100	268,000	200,300	914,500

June 24.—By the steamer Madeirense, from Manáos and Pará:	Fine.	Medium.	Coarse.	Cauchó.	Total.
General Rubber Co.	35,000	12,700	48,600	34,500	131,700
A. T. Morse & Co.	19,400	4,600	64,000	3,700	91,700
New York Commercial Co.	20,000	6,500	27,000	3,300	57,800
Poel & Arnold	200	6,100	9,000	15,200	31,100
C. P. dos Santos	11,100	6,800	32,000	1,300	51,200
Hagemeyer & Brunn	11,600	.....	11,900	.....	22,900
Edmund Reeks & Co.	.....	.....	11,600	.....	11,600
Neale & Co.	.....	300	1,300	700	2,300
Total	97,600	37,000	207,200	58,700	400,500

[NOTE.—The steamer Basil, from Pará, is due at New York July 5 with 240 tons Pará and 30 tons Cauchó.]

PARA RUBBER VIA EUROPE.

Imports.	Harburger & Stack	6,000
May 25.—By the <i>Batavia</i> —Hamburg:	Strube & Ulze	3,500
Poel & Arnold (Coarse)	Graham, Hinkley & Co.	2,000
May 28.—By the <i>Victorian</i> —Liverpool:	Thibaud Brothers	1,500
Poel & Arnold (Fine)	Frederick Probst & Co.	1,000
May 29.—By the <i>Campania</i> —Liverpool:	May 25.—By the <i>Advance</i> —Colon:	
New York Commercial Co. (Fine)	New York Commercial Co.	8,000
May 31.—By the <i>Panama</i> —Mollend:	Pablo Calvet Co.	2,000
New York Commercial Co. (Fine)	A. Rosenthal Sons	1,500
W. R. Grace & Co. (Cauchó)	Eggers & Heinlein	1,500
May 31.—By the <i>Proctor</i> —Hamburg:	G. Amsinck & Co.	1,500
General Rubber Co. (Coarse)	May 27.—By the <i>Vigilancia</i> —Tampico:	
June 8.—By the <i>Campania</i> —Liverpool:	Ramsh & Helde	35,000
New York Commercial Co. (Fine)	Edward Maurer	30,000
June 10.—By the <i>Rafin</i> —Liverpool:	Isaac Kubie & Co.	5,000
Poel & Arnold (Cauchó)	Harburger & Stack	1,000
June 12.—By the <i>Carmania</i> —Liverpool:	May 20.—By the <i>Carmania</i> —Liverpool:	
Poel & Arnold (Cauchó)	George A. Alden & Co.	4,500
June 14.—By the <i>Orinoco</i> —Cruelá-Belvar:	A. T. Morse & Co.	2,500
Thibaud Brothers (Fine)	A. Hirsch & Co.	1,000
Thibaud Brothers (Coarse)	May 20.—By the <i>Siglo</i> —Galveston:	
G. Amsinck & Co. (Fine)	Continental-Mexican Rubber Co.	22,500
June 18.—By the <i>Lombard</i> —Mollend:	May 20.—By the <i>Sigismund</i> —Colon:	
W. R. Grace & Co. (Cauchó)	W. R. Grace & Co.	4,500
June 20.—By the <i>Domestic</i> —Liverpool:	Hirzel, Feltman & Co.	1,500
New York Commercial Co. (Fine)	Ados, Santos & Co.	1,500
Poel & Arnold (Coarse)	A. M. Capen's Sons	1,500
June 21.—By the <i>Wallrose</i> —Hamburg:	May 11.—By the <i>Panama</i> —Colon:	
General Rubber Co. (Coarse)	G. Amsinck & Co.	15,500

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

May 25.—By the <i>Esperanza</i> —Frontera:	Prices.
E. Seiger & Co.	7,000

CENTRALS—Continued.

Harburger & Stack	6,000
Strube & Ulze	3,500
Graham, Hinkley & Co.	2,000
Thibaud Brothers	1,500
Frederick Probst & Co.	1,000
May 25.—By the <i>Advance</i> —Colon:	
New York Commercial Co.	8,000
Pablo Calvet Co.	2,000
A. Rosenthal Sons	1,500
Eggers & Heinlein	1,500
G. Amsinck & Co.	1,500
May 27.—By the <i>Vigilancia</i> —Tampico:	
Ramsh & Helde	35,000
Edward Maurer	30,000
Isaac Kubie & Co.	5,000
Harburger & Stack	1,000
May 20.—By the <i>Carmania</i> —Liverpool:	
George A. Alden & Co.	4,500
A. T. Morse & Co.	2,500
A. Hirsch & Co.	1,000
May 20.—By the <i>Siglo</i> —Galveston:	
Continental-Mexican Rubber Co.	22,500
May 20.—By the <i>Sigismund</i> —Colon:	
W. R. Grace & Co.	4,500
Hirzel, Feltman & Co.	1,500
Ados, Santos & Co.	1,500
A. M. Capen's Sons	1,500
May 11.—By the <i>Panama</i> —Colon:	
G. Amsinck & Co.	15,500
Roldan & Van Sickle	4,000
Hirzel, Feltman & Co.	3,000
Dunmest Bros.	1,500
Pablo Calvet Co.	1,500
Ados, Santos & Co.	1,500
New York Commercial Co.	1,500
L. Johnson & Co.	1,500
June 1.—By the <i>Mexico</i> —Frontera:	
Harburger & Stack	3,500

CENTRALS—Continued.

W. L. Wadleigh	2,000
E. Seiger & Co.	1,000
H. Marquardt & Co.	1,500
June 1.—By the <i>El Norte</i> —New Orleans:	
A. T. Morse & Co.	7,000
A. N. Rotholz	4,000
Eggers & Heinlein	1,500
Manhattan Rubber Manufacturing Co.	1,500
June 3.—By the <i>El Rio</i> —Galveston:	
Continental-Mexican Rubber Co.	22,500
June 4.—By the <i>Alleanza</i> —Colon:	
Piza, Newhews Co.	2,500
Kunhardt & Co.	1,500
G. Amsinck & Co.	1,500
E. B. Stront	1,500
Silva, Bussenus Co.	1,500
Meyer Hecht	1,000
Aramburo Incorporated	1,000
Andreas & Co.	1,000
June 6.—By the <i>Orinoco</i> —Caribbean:	
Ados, Santos & Co.	3,000
W. R. Grace & Co.	2,000
G. Amsinck & Co.	2,000
Escobar & Gorgorza	1,500
Hirzel, Feltman & Co.	1,500
June 6.—By the <i>Joachim</i> —Columbia:	
Cortez Commercial Co.	5,500
Escobar & Gorgorza	3,000
Isaac Brandon & Bros.	3,000
Martinez & Blanco	2,500
A. Held	1,500
D. A. de Lima Co.	1,000
United Trust Co.	1,000
June 6.—By the <i>Camagney</i> —Tampico:	
New York Commercial Co.	7,000
Edward Maurer	35,000
Harburger & Stack	3,000

CENTRALES—Continued.

JUNE 6.—By the <i>Carib</i> —Havre:	
Eggers & Heinlen.....	3,000
H. W. Peabody & Co.....	1,000
JUNE 7.—By the <i>El Mar</i> —Galveston:	4,000
Continental-Mexican Rubber Co.....	*45,000
JUNE 8.—By the <i>Patricia</i> —Hamburg:	
Poel & Arnold.....	11,000
JUNE 8.—By the <i>Monterey</i> —Vera Cruz:	
New York Commercial Co.....	2,500
Harburger & Stack.....	2,500
H. Marquardt & Co.....	2,500
Lewis & Palf.....	1,500
Frederick Probst & Co.....	1,000
JUNE 10.—By the <i>Ganther</i> —Bahia:	
Poel & Arnold.....	35,000
American Commercial Co.....	13,500
New York Commercial Co.....	11,500
J. H. Rossback Bros.....	4,500
A. Hirsch & Co.....	1,500
A. D. Hitch & Co.....	1,000
JUNE 10.—By the <i>El Siglo</i> —Galveston:	
Continental-Mexican Rubber Co.....	*65,000
JUNE 13.—By the <i>Provenca</i> —Havre:	
Robinson & Stiles.....	7,000
JUNE 12.—By the <i>Financé</i> —Colon:	
Andreas & Co.....	2,500
Pablo, Calvet Co.....	2,500
Hirzel, Feltman & Co.....	2,500
Mann & Emdon.....	2,000
National Sewing Machine Co.....	1,500
Andean Trading Co.....	1,000
JUNE 13.—By the <i>Comus</i> —New Orleans:	
Manhattan Rubber Manufacturing Co.....	4,500
Eggers & Heinlen.....	2,500
A. T. Morse & Co.....	1,500
G. Amsinck & Co.....	1,000
JUNE 14.—By the <i>Adriatic</i> —London:	
A. Hirsch & Co.....	11,500
JUNE 14.—By the <i>El Dorado</i> —Galveston:	
Continental-Mexican Rubber Co.....	*33,000
JUNE 15.—By the <i>Merida</i> —Frontera:	
Harburger & Stack.....	7,000
E. Steiger & Co.....	5,000
American Trading Co.....	2,500
New York Commercial Co.....	1,500
Isaac Kubic & Co.....	1,000
JUNE 17.—By the <i>Yonuri</i> —Lampico:	
Edward Maurer.....	*65,000
New York Commercial Co.....	*27,000
JUNE 17.—By the <i>Colon</i> —Colon:	
Dumarest Bros. Co.....	5,500
Roldan & Van Sickle.....	3,500
G. Amsinck & Co.....	2,500
Pablo, Calvet Co.....	2,500
L. Johnson & Co.....	1,500
Aramburo, Incorporated.....	1,500
R. Faben & Co.....	1,000
JUNE 18.—By the <i>El Monte</i> —New Orleans:	
A. N. Rotholz.....	4,000
A. T. Morse & Co.....	1,500
JUNE 18.—By the <i>Thosps</i> —Bahia:	
Poel & Arnold.....	28,000
American Commercial Co.....	8,000
JUNE 18.—By the <i>El Sud</i> —Galveston:	
Continental-Mexican Rubber Co.....	*22,500
JUNE 18.—By the <i>Vechna</i> —Colon:	
D. A. De Lima & Co.....	3,000
A. Held.....	1,500
Isaac Brandt & Bros.....	1,500
Suzarte & Whitney.....	1,000
G. Amsinck & Co.....	1,500
H. Marquardt & Co.....	1,000
JUNE 19.—By the <i>El Alba</i> —Galveston:	
Continental-Mexican Rubber Co.....	*22,500
JUNE 20.—By the <i>Magdalena</i> —Columbia:	
W. R. Grace & Co.....	2,000
Roldan & Van Sickle.....	1,500
G. Amsinck & Co.....	1,500
A. M. Cagen's Sons.....	1,000
Seauz & Co.....	1,000
JUNE 20.—By the <i>Armenian</i> —Liverpool:	
George A. Alden & Co.....	5,500
JUNE 21.—By the <i>Adriatic</i> —Colon:	
Hirzel, Feltman & Co.....	4,500
Dumarest Bros. & Co.....	2,500
Roldan & Van Sickle.....	2,000
G. Amsinck & Co.....	1,500
A. Santos & Co.....	1,000

*This sign in connection with imports of Centrals denotes Guayule rubber.

AFRICANS.

May 24.—By the <i>Hudson</i> —Havre:	POUNDS.
Poel & Arnold.....	45,000
George A. Alden & Co.....	15,000

AFRICANS—Continued.

May 27.—By the <i>Celtic</i> —London:	
General Rubber Co.....	25,000
George A. Alden & Co.....	8,000
May 28.—By the <i>Pictoria</i> —Liverpool:	
Livesey & Co.....	15,000
May 29.—By the <i>Carma</i> —Liverpool:	
A. T. Morse & Co.....	35,000
George A. Alden & Co.....	5,500
Livesey & Co.....	5,500
W. L. Gough Co.....	9,000
May 31.—By the <i>Pictoria</i> —Hamburg:	
A. T. Morse & Co.....	38,000
Poel & Arnold.....	25,000
JUNE 3.—By the <i>Faderland</i> —Antwerp:	
George A. Alden & Co.....	5,500
A. T. Morse & Co.....	4,500
Raw Products Co.....	4,500
General Rubber Co.....	5,500
JUNE 3.—By the <i>Blucher</i> —Hamburg:	
A. T. Morse & Co.....	65,000
Poel & Arnold.....	7,000
George A. Alden & Co.....	3,500
JUNE 6.—By the <i>Majestic</i> —Liverpool:	
General Rubber Co.....	15,000
Henry A. Gould Co.....	7,500
JUNE 8.—By the <i>Ganymede</i> —Liverpool:	
Livesey & Co.....	22,500
JUNE 8.—By the <i>Patricia</i> —Hamburg:	
Poel & Arnold.....	15,500
Rubber Trading Co.....	10,000
A. T. Morse & Co.....	7,000
George A. Alden & Co.....	5,500
JUNE 8.—By the <i>St. Louis</i> —London:	
General Rubber Co.....	50,000
JUNE 10.—By the <i>Baltic</i> —Liverpool:	
General Rubber Co.....	220,000
A. T. Morse & Co.....	11,000
JUNE 12.—By the <i>Finland</i> —Antwerp:	
Joseph Cantor.....	22,500
W. L. Gough & Co.....	13,000
A. T. Morse & Co.....	6,500
JUNE 12.—By the <i>Carman</i> —Liverpool:	
General Rubber Co.....	60,000
A. T. Morse & Co.....	17,000
Poel & Arnold.....	34,000
W. L. Gough Co.....	5,500
JUNE 13.—By the <i>Pres. Lincoln</i> —Hamburg:	
A. T. Morse & Co.....	40,000
Poel & Arnold.....	20,000
JUNE 15.—By the <i>Cedric</i> —Liverpool:	
A. T. Morse & Co.....	11,500
George A. Alden & Co.....	6,500
A. W. Brunn Co.....	5,500
JUNE 17.—By the <i>Lorraine</i> —Havre:	
George A. Alden & Co.....	6,000
JUNE 17.—By the <i>Philadelphia</i> —London:	
General Rubber Co.....	30,000
JUNE 17.—By the <i>Amerika</i> —Hamburg:	
A. T. Morse & Co.....	33,000
JUNE 17.—By the <i>Cambreman</i> —Antwerp:	
Poel & Arnold.....	56,000
Joseph Cantor.....	6,500
JUNE 20.—By the <i>Armenian</i> —Liverpool:	
Raw Products Co.....	11,500
George A. Alden & Co.....	3,500
JUNE 21.—By the <i>Waldsee</i> —Hamburg:	
A. T. Morse & Co.....	45,000
Poel & Arnold.....	13,500
W. L. Gough Co.....	5,500
Rubber Trading Co.....	3,500
George A. Alden & Co.....	3,500

EAST INDIAN.

May 25.—By the <i>Schuyllkill</i> —Singapore:	
Heabler & Co.....	20,000
Poel & Arnold.....	15,000
May 27.—By the <i>Lorader Castle</i> —Singapore:	
Heabler & Co.....	45,000
A. T. Morse & Co.....	13,500
Joseph Cantor.....	35,000
May 28.—By the <i>Minnetonka</i> —London:	
General Rubber Co.....	6,500
George A. Alden & Co.....	*3,000
May 31.—By the <i>Gordon Castle</i> —Columbia:	
A. T. Morse & Co.....	*15,000
JUNE 3.—By the <i>Faderland</i> —Antwerp:	
George A. Alden & Co.....	*4,500
JUNE 7.—By the <i>Barbrossa</i> —Genoa:	
A. W. Brunn Co.....	8,000
JUNE 8.—By the <i>Patricia</i> —Hamburg:	
Rubber Trading Co.....	11,500
W. L. Gough Co.....	3,500

EAST INDIAN—Continued.

June 11.—By the <i>Monica</i> —London:	
General Rubber Co.....	*15,000
George A. Alden & Co.....	15,000
JUNE 14.—By the <i>Heather</i> —London:	
Poel & Arnold.....	4,500
A. T. Morse & Co.....	7,500
JUNE 19.—By the <i>Mayaba</i> —London:	
George A. Alden & Co.....	4,500
JUNE 19.—By the <i>Achanga</i> —Singapore:	
Winter & Smilie.....	9,000
JUNE 20.—By the <i>Leander</i> —London:	
Poel & Arnold.....	5,500
*Denotes Plantation rubber.	
GUTTA PERCHA.	
	POUNDS.
May 25.—By the <i>Schuyllkill</i> —Singapore:	
Heabler & Co.....	15,000
George A. Alden & Co.....	14,500
Winter & Smilie.....	7,500
May 27.—By the <i>Lorader Castle</i> —Singapore:	
H. Pauli & Co.....	175,000
L. Littlejohn & Co.....	11,000
W. L. Gough Co.....	42,000
Heabler & Co.....	30,000
George A. Alden & Co.....	20,000
May 28.—By the <i>Statendam</i> —Rotterdam:	
Heabler & Co.....	45,000
JUNE 3.—By the <i>Bona</i> —Liverpool:	
George A. Alden & Co.....	35,000
JUNE 11.—By the <i>Ryndam</i> —Rotterdam:	
Heabler & Co.....	80,000
JUNE 19.—By the <i>Albenga</i> —Singapore:	
George A. Alden & Co.....	150,000
Heabler & Co.....	43,000
L. Littlejohn & Co.....	35,000
N. Jachensen.....	110,000
J. W. Phiyer & Co.....	85,000

GUTTA PERCHA.

	POUNDS.
May 25.—By the <i>Schuyllkill</i> —Singapore:	
Poel & Arnold.....	5,500
May 27.—By the <i>Lorader Castle</i> —Singapore:	
H. Pauli & Co.....	22,000
JUNE 13.—By the <i>President Lincoln</i> —Hamburg:	
Robert Soltan Co.....	7,500
BALATA.	
	POUNDS.
JUNE 3.—By the <i>Korona</i> —Demerara:	
A. T. Morse & Co.....	6,500
George A. Alden & Co.....	2,500
Frame & Co.....	1,500
G. Amsinck & Co.....	1,500
JUNE 12.—By the <i>Garmann</i> —Liverpool:	
W. L. Gough Co.....	4,500
JUNE 17.—By the <i>Caracas</i> —La Guayra:	
G. Amsinck & Co.....	2,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MAY.

Imports:	POUNDS.	VALUE.
India rubber.....	5,093,797	\$4,537,095
Balata.....	123,784	46,862
Gutta-percha.....	64,198	13,831
Gutta jelutong (Pontianak).....	4,126,166	167,132
Total.....	10,307,885	\$4,765,120
Exports:		
India-rubber.....	85,689	\$53,344
Rubber Scrap imported.....	1,149,092	\$112,862

BOSTON ARRIVALS.

	POUNDS.
Apr. 2.—By the <i>Sagamore</i> —Liverpool:	
Poel & Arnold—Africans.....	13,473
Apr. 2.—By the <i>Sagamore</i> —Liverpool:	
George A. Alden & Co. Africans.....	2,284
Apr. 8.—By the <i>Sykama</i> —Liverpool:	
George A. Alden & Co.—Africans.....	31,668
Apr. 16.—By the <i>Michigan</i> —Liverpool:	
George A. Alden & Co. Africans.....	17,935
Apr. 23.—By the <i>Sachem</i> —Liverpool:	
George A. Alden & Co.—Africans.....	38,935
Apr. 24.—By the <i>Barcelona</i> —Hamburg:	
George A. Alden & Co. Africans.....	2,154
Total.....	106,469
Value, \$90,744.	



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JULY 1, 1907

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OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1907.....	6,664,693	399,422	6,595,271
January-March	23,819,218	1,079,002	22,731,216
Four months, 1907	30,774,911	1,478,424	29,296,487
Four months, 1906	24,928,962	1,220,754	23,669,208
Four months, 1905	32,666,023	1,134,713	31,471,310
GERMANY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1907.....	4,209,086	858,886	3,170,200
January-March	8,499,226	3,035,669	5,011,160
Four months, 1907	12,675,369	4,493,940	8,181,360
Four months, 1906	14,569,266	3,954,690	10,666,200
Four months, 1905	14,879,480	4,874,540	10,004,940

FRANCE.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1907.....	3,420,120	2,292,180	1,127,940
January-March	7,999,500	5,133,200	2,836,240
Four months, 1907	11,389,020	7,425,440	3,964,180
Four months, 1906	12,166,440	5,237,540	6,928,900
Four months, 1905	10,216,580	5,599,000	4,617,580

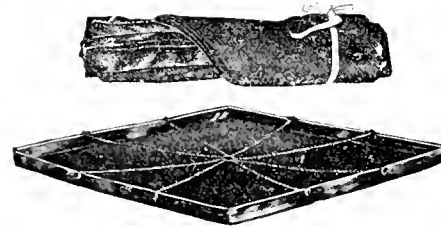
BELGIUM.†			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1907.....	1,387,078	791,793	595,285
January-March	4,869,514	3,088,599	1,720,915
Four months, 1907	6,196,592	3,880,392	2,316,200
Four months, 1906	7,007,095	4,173,950	2,923,109
Four months, 1905	6,272,223	4,079,720	2,195,494

GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1907.....	8,724,576	3,730,720	4,993,856
January-March	20,225,296	8,994,496	11,230,800
Four months, 1907	28,949,872	12,725,216	16,224,656
Four months, 1906	23,847,264	12,045,584	11,201,680
Four months, 1905	21,776,608	12,835,096	8,941,512

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber. French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.
†Special Commerce.

ALLEN'S SAFETY FLOOR MAT.

THE Safety Floor Mat, marketed originally as an accessory to the Allen portable bathing outfit, has found a field of its own and is carried in stock by many firms as a separate article of trade. This mat is used for the protection of floors,



SAFETY FLOOR MAT.

[The lower view shows the mat spread out for use, and the upper view the mat rolled up for convenient carriage.]

carpets, and the like, from splashing, spray, and dripping water, when bathing children, invalids, pets, etc.; when watering plants, and for many other purposes. When it is desired to empty one of these mats after use it is done as shown in the small illustrations to the right. The Safety floor mats are made of special heavy black rubber coated best quality drill, constructed without seams, thereby preventing leakage and rendering its use sanitary. Mats are fitted with the Allen improved radial supports and lifting device, enabling user to easily lift and empty the mats when completely filled with water. The Allen portable bathing outfit is designed especially for convenience when traveling or in camp, for which it has much merit. [The Allen Manufacturing Co., Toledo, O.]



SAFETY FLOOR MAT.

[Mat filled and being carried with one hand. Mat being emptied with two hands.]

THE management of the Isthmus Plantation Association of Mexico arranged recently for a meeting of their shareholders residing in and near Chicago, at which a report on the company's rubber planting in Mexico was presented and discussion invited. This is to be followed by similar meetings of shareholders at seven other centers, all to be preliminary to a general meeting of shareholders' representatives, probably at Milwaukee, with a view to deciding the company's future policy.

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THE WELD MFG. CO.,
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 inside of coat.....



INDIA RUBBER WORLD

CAOUTCHOUC
 HEVEA BRASILIENSIS

GUTTA-PERCHA
 DICHOROS GUTTA

Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

Vol. XXXVI. No. 5.

AUGUST 1, 1907.

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 GORHAM RUBBER CO., 301 1st Ave., South, SEATTLE, WASH.

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and ideas for development, invited.
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Vice-Pres. & Managing Director.

J. C. NICHOLSON,
Manager Mechanical Goods.

M. C. MULLARKY,
Manager Footwear Dept.

R. J. YOUNGE,
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HYPO BLACK	SHELLAC
CHLORIDE OF SULPHUR	GILSONITE ASPHALTUM
GENUINE LITHARGE	HYDRO CARBON
Powdered and Flake	MINERAL RUBBER
SULPHUR	ELASTIC COMPOUND
VEGETABLE BLACKS	COMPO BLACK
BLACK FILLER	WAXES, Ceresine, Ozokerite
BISULPHIDE CARBON	VARNISH MAKERS' SUPPLIES
TETRACHLORIDE CARBON	INSULATING COMPOUNDS

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We are alert to present unknown natural products to the producers of
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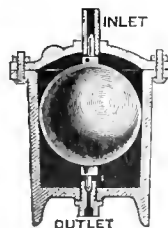
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THE OUTDOOR AUTOMOBILE SHOW.

THE automobile shows next winter, we understand, are to be held some weeks earlier than usual. The reasons for this change of program have not interested us particularly, because the automobile show, for all practical purposes, soon will be a thing of the past. Who would go now to see a bicycle show? Who would flock to an exhibition of watches or sewing machines, or the working of the electric telegraph?

We do not imply that the popular interest in automobiles is subsiding or that the limit of novelty in their production has been reached. But there is to be seen daily on the streets of New York—and, in proportion to their size, in other cities—such an automobile show as was never witnessed in any of the great halls rigged up for exhibition purposes, for a week or two, in any city. One who can stand on the streets and witness the constant procession of motor cars of all sorts without being convinced that the new style of transportation is thoroughly practical—and unapproached by any other—could not be further convinced by walking past interminable rows of inactive automobiles crowded into the conventional show halls, however brilliantly lighted with electricity or decorated with flags and banners. One who walks through the streets can see within an hour more styles of motor vehicles than were ever brought together in

an exhibition hall. And what is more, one need not want to be assured by an exhibitor as to what a car can do; on the street it is active. Outdoors is a continuous demonstration ground. In the exhibition hall the visitor must depend upon his imagination to tell him the possibilities of an automobile in action; on the streets every beholder is confronted with practical examples of motor car capacity beyond the limits of ordinary imaginative powers.

A recent European visitor to the offices of our Journal incidentally spoke of the ordinary exhibition of automobiles upon the streets of the cities as having impressed him more than anything else he had seen in America. The same thing has impressed us. And we feel that any one who will spend half an hour in watching the thousands of patrons of the turf in automobiles returning from the suburban race courses of New York on a summer afternoon—not to speak of other occasions—need not go to a "show" inside an exhibition building to look for variety in automobile construction or to see what the self propelled vehicles are capable of in crowded thoroughfares.

The automobile, of course, has been made possible only through the development of the pneumatic tire. For that the rubber trade is entitled to credit, and hence our interest in automobiles. The demonstration of the pneumatic tire in action on the street any day is worth more than the exhibition of tires on motionless motor cars in an exhibition hall for a whole winter. What does the assertion of an exhibitor as to what a rubber tire will stand amount to as compared with the constant exhibition of actual tire achievement on the streets?

What we have written in regard to street demonstrations as compared to conventional automobile shows is meant to apply to all the great capitals alike. But as for the prevalence of the new vehicles in American cities, it is so far beyond comparison with anything to be seen elsewhere that it is only natural that the leading tire manufacturers abroad should be seeking a footing in the American market. And when New York as a great city—and when the highways in the country at large—ceases to be new in the minds of middle aged men, we predict that the paradise of rubber tire makers will be found between the Atlantic and the Pacific oceans. We are bound to see motor car touring 3000 miles across the continent with the best roads men are capable of building and then will be found here the ideal field for automobiles and the greatest of all markets for tires.

THE INVENTOR IN BUSINESS.

IT might seem natural that the inventor of an important article or process should be chosen as the head of a company formed for its exploitation. There are not wanting instances of large and successful

establishments growing from small beginnings made by an inventor starting in alone to market some product of his skill or ingenuity. But these are exceptions rather than the rule. In modern manufacturing, whereas the basis of numberless concerns is some particular invention, generally patented, the inventor is not generally seen at the head of the management or contributing to it in an important degree.

Any reader can recall instances of inventors who feel that fate has dealt harshly with them—if not unjustly—owing to their failure to reap the lion's share of profits realized from an industry for which some idea of theirs formed the original germ. But manufacturing is a singularly complex business, requiring talents of many kinds, and above all is an intensely practical business. And the mere fact that a man has devised a machine that will enable one man to do the work which before employed twenty does not necessarily prove him a "practical" man. At least it does not prove him capable of making the machine economically or creating a market for it. It does not imply capacity to organize and direct working forces on a large scale; it does not involve the ability to finance an extensive business. None will gainsay the ability of Mr. Edison, for example, for he ranks as the greatest of the world's army of inventors. But none will concede more readily than Mr. Edison that he is not a "business man." His forte is the development of new practical applications of science—not in directing a factory or finding outlets for its products. And so with most other inventors of high and low degree. The deriving of a commercial reward for their work calls for other forms of talent perhaps as marked as their own.

One trouble about the inventor at the head of a factory is that its products are apt never, to his mind, to be completed or perfect. While the commercial type of man will seize upon an invention as it stands and devote his mind singly to the work of finding a market for it, the original creator of the machine or device would be likely, if in charge of the business, to have his mind full of ideas of improving the article and be found constantly experimenting. The thing for the average inventor to do, therefore, is to stick to his inventing and seek to interest in his work men who are capable as manufacturers, salesmen, and financiers, not forgetting to seek a business man's advice in making any agreement as to his ultimate share in the profits.

GERMANY'S INDUSTRIAL GROWTH.

IN a published interview credited to Count von Posadowsky-Wehner, lately of the imperial German ministry, that statesman emphasizes the change that has come about in his country, whereby "Germany has definitely ceased to be an exporter of men and

has become an importer on a large and increasingly heavy scale." This applies both to manufactures and to farming. From all over Europe the industrial forces of Germany are being recruited, under the new era there that provides work for everybody at home and for more, whereas it is not so long since a great problem was that of finding elsewhere room for the surplus German population.

Of course the influx of foreign labor means that labor is better paid in Germany to-day than in the regions from which the immigration is drawn; in other words, that a better standard of living is possible to be maintained there as the reward of labor. One result will be that any advantage in favor of Germany in competition with some other manufacturing countries—America, for example—on account of a low wage scale will gradually disappear. On the other hand, the industrial leaders of Germany, aided by the benefits of widespread technical education, may be counted upon to strive to prevent any other country from excelling them in the matter of processes and methods.

The fact that Germany is importing men, considered from another viewpoint, means that she is exporting on a rapidly growing scale the products of skilled labor and thus realizing a profit from supplying an increasing share of the manufactured wares needed by the world at large. The importance of her position as a competitor in any branch of industry cannot be ignored.

To take a single example of industrial expansion in Germany, one may note the growth in the consumption of india-rubber in that country, which, according to estimates made by the *Gummi-Zeitung*, amounted to only 673 tons in 1858; 1989 tons in 1872; 3329 tons in 1889, and 13,542 tons in 1905. This increase is accounted for only in part by the greater use of rubber goods in Germany; an increasingly important item is the consumption of German made rubber goods abroad.

SOME NEW RUBBER FACTS (?).

IN view of THE INDIA RUBBER WORLD having been among the first to commend the practical value of the United States consular reports as now prepared and published, and of its being to this day second to none in appreciation of the work of the consular service, we may be allowed, we hope, to criticize these reports now and then without prejudice to the system as a whole. It is taken for granted that the consuls do not assume to be experts on the thousand and one subjects that come under their notice—and their pens—but we fail to see what harm could come from including somewhere in the consular administration a little more expert knowledge of every day topics than is sometimes apparent, in order to guard against absurd utterances.

In the issue of the *Daily Reports* for June 18 last are some paragraphs headed "Rubber Tapping," over which we dare say some people will feel amused, and it will hardly serve as an excuse for the government to point out that the paragraphs in question are clearly put forward as an extract from a newspaper. In the absence of any warning the reader is justified in accepting the statements made as official and to be taken for gospel. Else why is the stuff printed?

It cannot be too strongly pointed out, we read in this report from Washington,

that too frequent or prolonged tapping is injurious and only produces inferior rubber.

One is not told how frequent or how prolonged is the tapping practice here criticized, but the next sentence may serve to help out:

In Brazil rubber trees are only tapped for one period of the year, doubtless owing to the country being flooded.

Come to think of it, much of the Amazon region is overflowed some time in every year, but this leaves several months for rubber gathering, and it has always been understood that the big wild *Hevea* trees are tapped at least a hundred times in a season and that they receive this treatment year after year. Then how about the next sentence in the official fountain of knowledge:

The long interval of rest may represent well matured or well oxidized caoutchouc, and partly explains the preference for Brazilian rubber.

We could wish that some man of wealth would offer a prize for the discovery of the meaning of "well oxidized caoutchouc." The mere expression makes one think of well stagnated water as a beverage and other such like pleasant things.

WHILE THE GREATER PART OF THE RUBBER PRODUCED is obtained from the barks of trees and plants, rubber is found in the woody portion of at least one species (the Mexican guayule). Rubber is found in the leaves of plants, and in the roots. We have lately reported on a rubber yielding tuber, and now attention is being called to fruits yielding rubber. Horticulturists have done wonders in the past in developing particular features in plant growth, and who knows but that some "plant wizard" will arise who will develop a tree that is all rubber?

IT NOW LOOKS AS IF RUBBER is to be exploited profitably in the Amazon region by foreign capital. Why not? It must be assumed that the greater part of the rubber that has come down the Amazon in the past—hundreds of millions of pounds—has yielded a profit to somebody concerned in its collection. It is true that the European managed companies that have entered the field generally have come to grief, but this might be taken to prove that their administrators were less capable business men—in the rubber trade, at least—than the traders native to the country.

ONE MERIT OF HIGH CAB FARES in New York is that they have tended to keep the vehicles out of use, and thus lessened the wear and tear of the tires. This has meant a saving to the cab owners, even if the public may have been inconvenienced. Now that a company has been formed in London to fill New York streets with Paris built "taximeter" motor cabs, with a minimum fare of 30 cents instead of \$1, it is likely that a new outlet will be opened for the sale of rubber tires. The company's pros-

pectus, by the way, estimates the tire bill per day at \$2 for each cab.

AND NOW GOVERNMENT MANAGEMENT OF THE "TRUSTS" by receivers has been suggested seriously. While the people were really inflamed against the big corporations the laws and the courts failed to suppress them. Now that the public has lost its old-time interest in the subject, there are still some individuals who insist that "the trusts must go," and the most practical plan that they can suggest is to put the offending companies in the hands of receivers! No doubt it would be great fun for a government paid receiver to manage the business of a corporation like the United States Rubber Co., for example. It might afford amusement likewise to some onlookers, including any competing makers of rubber goods who might still be allowed to attend to their own business.

CENSUS REPORT ON ELECTRICAL SUPPLIES

BULLETIN No. 73 of the United States census of manufactures of 1905, devoted to Electrical Machinery, Apparatus and Supplies, is written by Thomas Commerford Martin, editor of *The Electrical World*, expert special agent for the census office in this inquiry. The figures of the recent census, compared with the census of 1900, show a notable increase in all branches of the electrical industry in the United States, but in this place attention can be given only to the section devoted to insulated wires and cables.

The production of insulated wires and cables is reported by value only, it having been practically impossible to secure returns of the quantity of material produced. The value stated for 1905 is \$34,510,609, against a total of \$21,292,001 for 1900—an increase of 62½ per cent. This represents the output of 61 factories, located in 13 states, mostly in the East, New York taking the lead. Of course the figures embrace insulated wires of every type, and no attempt is made to distinguish between rubber insulated wires and others. It is matter of common knowledge, however, that the production of rubber insulation work is on the increase, and while Mr. Martin does not refer to the matter, it may be assumed that the increase in rubber products has been as great as in the industry as a whole. It is hardly necessary to add that not all the 61 factories in question use rubber for insulation.

"EVERY branch of electrical industry requires large amounts of insulated wires and cables," says the author of this bulletin. "Every telegraph office and telephone exchange employs large quantities of such wires and cables. Every house or factory or office building wired for electric lighting and power receives and distributes its current through insulated conductors. Every motor car is heavily cabled, while every dynamo and motor is built up with insulated wires and cables." Among the many illustrations of the extensive uses of such wires, it is stated that a single telephone switchboard of the large modern type contains as much as 10,000 miles of insulated wire.

Special reference is made to underground cables in the field of electric lighting and power work. Referring to high tension cables of the class which have relatively small current carrying capacity, for operation under working pressures of from 2,500 to 25,000 volts, Mr. Martin writes that these "have developed from the stage where merely rubber was used for insulation up to the time of the present report, when rubber, varnished cambric, saturated tape, and paper insulation have all been brought to a high state of perfection for this work. Rubber is used only where local conditions seem to demand an insulation that is impervious to moisture, so that in case the outer protected lead sheath should be punctured the cable itself need not necessarily fail. The superintendent of motive power of the Interborough

Rapid Transit Co., of New York city, points out that where cables have to be installed in conduits that are under water part of the time or on the beds of rivers, etc., the extra investment for the more costly rubber insulation is justified, since in case of a leak in a submarine or submerged cable lead sheath it usually becomes a total loss if insulated with paper or non-moisture proof material, whereas good rubber lasts indefinitely under water."

* * *

With regard to the insulated cable used in telephonic work the report says: "The great advantage of paper insulated cable is that its low electrostatic capacity makes it much less expensive than other types. The rubber cable requires three times as much copper conductor as the paper cable, hence as the capacity increases with larger conductors the rubber insulation becomes more expensive than paper, on the basis that rubber cable has about three times the electrostatic capacity of paper cable."

During the period intervening between the censuses of 1900 and 1905 a new branch of insulation work developed in the United States—the manufacture of submarine cables. The lines installed among the Philippine islands and between Seattle and Alaska, involving cables manufactured in this country, aggregate in length more than twice the distance across the Atlantic.

GUAYULE INTERESTS.

A FACTORY for the preparation of guayule rubber is being erected by the Texas Rubber Co. at Marathon, in western Texas, on the Southern Pacific railway. The locality is between the Rio Grande and Pecos river, immediately north of the Mexican state of Coahuila. The Texas Rubber Co. was incorporated at Austin on April 10, 1907, by Otto Kochler, John J. Stevens, and S. G. Newton, all of San Antonio, Texas, where the company will maintain general offices. The capital, fully paid, is \$100,000. They have purchased all the guayule shrub in three large Texas counties—estimated at 8,000 to 10,000 tons—and expect to be in operation by August 1, turning out one ton of rubber daily. Mr. Kochler is president of the new company. He is president also of the National Rubber Co., of San Antonio, incorporated June 16, 1905, and now operating a guayule factory at Gomez Palacio, Mexico, with a capacity of one ton per day. [See THE INDIA RUBBER WORLD, April 1, 1907—page 209.] Mr. Kochler is president likewise of the San Antonio Brewing Association, an extensive enterprise.

Mr. Kochler writes to THE INDIA RUBBER WORLD: "There has been a great deal of sensational news disseminated through the newspapers in regard to the enormous quantities of guayule shrub in western Texas, and in order to set such reports at rest, and give you reliable data on the subject, I will state that after two years of close investigation and examination of the different guayule shrub bearing lands in Texas, I find that there is not to exceed, all told, 10,000 tons of the shrub in the whole state of Texas."

The factory of La Internacional Mexicana Compania Guayulera, S. A., at Torreon, was reported lately to have been closed temporarily for the addition of machinery to increase the capacity one-third. Luis Ottinger, of Mexico City, is president of the company.

The new Compania Guayulera de Torreon, S. A., mentioned in the last INDIA RUBBER WORLD (page 320), will, it is reported, locate their factory at Ocampo, state of Coahuila—a small station on the Mexican International railway, near the Texas border.

The Royal Rubber Co., the headquarters of which are at El Paso, were referred to in THE INDIA RUBBER WORLD June 1, 1907 (page 267), as erecting a guayule factory at Ciudad Juarez, Mexico. It has since been decided to locate nearer the guayule

producing district, probably at or near Torreon. Meanwhile considerable machinery has been made for the company at El Paso.

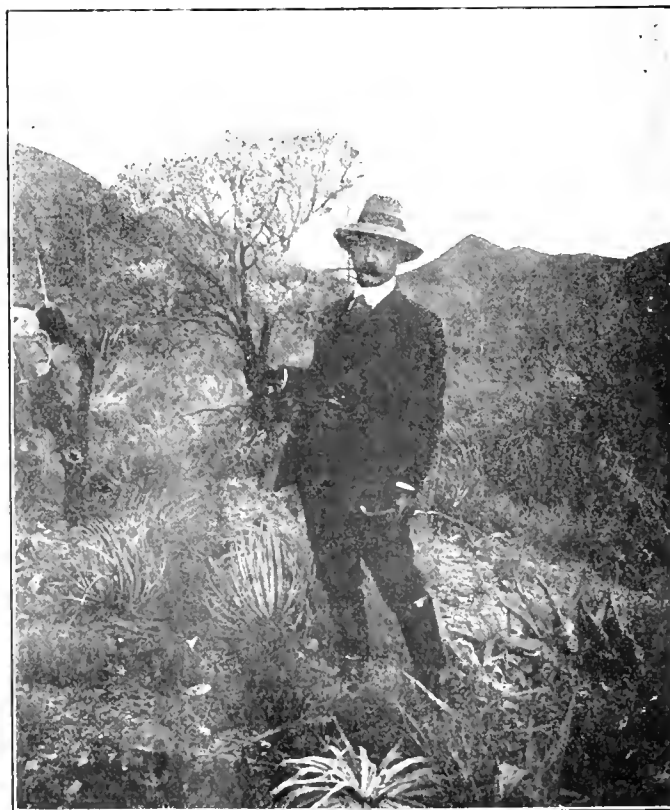
Mexican newspapers mention the Pennsylvania Rubber Co. (Jeannette, Pa.) as interested in certain guayule rubber enterprises. From the offices of the company THE INDIA RUBBER WORLD learns that a former official of the company did plan something of the kind, but that their interest in guayule probably will be disposed of in the very near future.

In a mention of one W. H. Ellis, of New York, in THE INDIA RUBBER WORLD of July 1, 1907 (page 308), it was inadvertently stated that he had gained "control of the factory at Gomez Palacio of the National Rubber Co." It appears that he did figure in the transfer of a small block of stock in this company some months ago, but the control remains with the Texas interests.

Mr. William H. Stayton, vice president of the Continental Rubber Co., is quoted by the Chihuahua (Mexico) *Enterprise* as estimating that, at the present rate of consumption, the supply of guayule shrubs should last for 7 years. Mr. Stayton is mentioned as having sent an average sized specimen of the shrub to the Smithsonian Institution, at Washington, where its age was reported to be 54 years. It is recognized that if a new supply of guayule is to be obtained, some means must be found for making it grow much faster than this.

DR. ADOLPH MARKS.

THE illustration on this page has been made from a photograph of Dr. Adolpho Marx, in a Mexican guayule "field." Dr. Marx has been interested in an important way, from the beginning, in the development of the guayule rubber interest. He was associated with the company L'Anglo Mexicana, a German company, directed from Hamburg, formed to exploit ixtle and other



DR. ADOLPHO MARX IN THE FIELD.

Mexican fibers, both for manufacture and exportation. Later (in 1905) the company transferred their guayule interests to a new company, the Compania Explotadora de Caucho Mexicano, now operating in producing guayule rubber on an important scale. Dr. Marx is interested largely and actively in the latter.

The Insulated Wire Manufacture— I.

By a Practical Man

NO department of the rubber industry has made more rapid progress than that devoted to the insulation of wires for electrical uses, though progress in some others may have been more spectacular. The manufacture of a valve or a piece of hose is no very exciting matter. Even the specifications of a railway company for air-brake hose, or of a city for its fire hose, while interesting, do not appeal to the imagination. It is within the purlieus of wire insulation that the efficiency of rubber compounding comes face to face with that grim and mysterious force found in the electric current. Here is not a question of finish, of color or of cost, so much as resistance and resilience. These matters being well established, users of insulated wire are apt to specify what materials shall be used and how the goods shall be made. That this feature may be the better understood the following specifications are given.

Here is an easy one: A coating of fine Pará is to be put upon the wire, followed by a layer containing 40 per cent. of fine Pará, which in turn shall be covered by a layer containing 30 per cent. of fine Pará, and finally a rubber-coated tape shall be wound over all. This insulation shall not contain more than 5 per cent. of acetone extract; a strip with marks upon it 2 inches apart shall stretch to 6 inches between marks, and recover to $2\frac{3}{8}$ inches in one minute, and then stretch 9 inches without breaking.

This one is a bit stiffer: All layers of pure Pará must be 98 per cent. pure, elastic, tough and free from flaws and holes. The compound to contain 39 to 44 per cent. of fine Pará and not more than 3 per cent. of sulphur. This sulphur must be combined with Pará so that not more than two-tenths of 1 per cent. shall remain in the compound as free sulphur. A piece one-half inch wide by one-thirty-second thick, shall, on stretching, show a breaking strain of 1,000 pounds per square inch and stretch $3\frac{1}{2}$ times its length. Then, subjected to stress of 900 pounds per square inch for one minute, must recover to 50 per cent. of its original length within ten minutes.

But the higher you go the harder it becomes, and "there's no elevator." This specification is for a cable:

The insulation must stand stretch of three times a given length without breaking and repeated four times must return within 50 per cent. of the original length by ten minutes, and then stretch $3\frac{1}{2}$ times length without breaking. Then, after soaking in water sixty hours, it must withstand an alternating voltage of 2,500. After the cable is made up the insulation of each conductor (wire) shall withstand without rupture for five minutes, a pressure of 1,000 volts alternating current, and finally, after seventy-two hours soaking, the insulation resistance of the completed cable shall not be less than 3,000 megohms per mile at 60° F. The compound must contain no reclaimed rubber, rubber substitute, asphaltum, lamp black, paraffine, ozokerite, or oils—30 per cent. pure gum only. What do you think of that, complacent manufacturers of "ordinary" rubber goods?

To insulate a single wire is no great problem, but the assembling and binding into a cable of from 7 to over 2,000 wires is a different matter. Let us examine one form of cable construction. About a single insulated wire as a central conductor are wound six other wires. These are then covered with a layer of frictional tape. This bundle is next surrounded by twelve other wires and the whole again taped. Next comes a layer of dry jute covered by a layer of tarred jute. These jute layers are twisted on in opposite directions and bound spirally with cotton thread to keep the fibers snugly in place, while, as a finisher, an armor of galvanized iron wire is wound over all. The outside diameter of such a cable must not exceed a given size, as, for example, 1 to 16 inches, nor weigh to exceed 6,500 pounds to the mile. When ready for shipment it will be coiled upon huge

wooden drums or reels, 4½ feet long by 6½ feet high. Each reel will contain from one to two miles of cable.

In some situations a fireproof cable is desirable. A large number of wires frequently enter into their construction, which are twisted together and covered with a jacket of compounded rubber insulation. This jacket is wound with asbestos tape. Then comes another and heavier cover of asbestos fiber, followed by one of cotton, both braided on. A finishing layer of flame-proof compound completes the work.

Cables are generally made up of bare wires, but not always. What is called an "aerial" cable is sometimes made up of small wires each separately insulated. These are then formed into a cable, which receives a cover of tape, then one of jute and one of braided cotton, covered by a coat of waterproof varnish.

Some years ago one of the electric lighting companies had a switchboard cable made of unusual size. It contained 61 bundles of 37 wires each, or a total of 2257 wires. These wires, twisted into a huge rope, were covered with a heavy coat of rubber insulation, which received a finishing armor of No. 4 B. W. G. galvanized iron wire.

Thus it will be seen that the maker of insulated wire has problems enough and to spare. They have proved stimulating to his inventive faculty, as is evidenced by the large number of patented or specially prepared compounds, chiefly valuable for their insulation properties. Many of them will be found described in Mr. Pearson's "Crude Rubber and Compounding Ingredients," and it is interesting to observe the various and peculiar substances that have the property of electrical resistance attributed to them. There is "insullac," containing wood or vegetable fiber; "marloid," employing animal hides; "viscoid," tar and pitch; "dermatine," gutta-percha and rubber; "vulcabeston," asbestos and rubber; "kerite," vegetable oils, coal tar and bitumen; also many patented and safe guarded compositions of which less is known.

Compounding for wire insulation does not differ essentially from methods employed in the mechanical rubber goods lines. Combinations of cheap gums with Pará are practicable and valuable, for, while much insulation is used containing 30 to 80 per cent. of fine Pará, there is a corresponding demand for cheap stocks always provided they meet insulation requirements.

One other thing is imperative: Compounds and gums must be clean of grit, sand bark, and the like, for such substances if allowed to remain, are almost sure to be found by the electric current, with disastrous results. So essential is cleanliness that mineral substances are sometimes sifted through silk screens. The average thickness of insulation for small wire being gaged by 64ths of an inch, it will be seen that a grain of sand, pin point in size, is always a ground of anxiety and sometimes the cause of loss.

Let us review briefly the manufacturing processes necessary to produce an insulated wire. They will be embraced under the following divisions: Mixing of compounds, tubing machine work, single and stranded conductors, cables, chemical analysis, testing and repairing.

We will assume that the factory has modern appointments, that all rubber used in compounding is clean and dry as bone, that other materials have been carefully dried and sifted. The mill, heated to just the right temperature, is ready for the ingredients that are to form the compound. The gum is first placed on the rollers and worked a few moments until softened sufficiently to absorb quickly the mineral powders. They are at hand in pail or pan, and are fed into the batch by degrees, or all at once as conditions or practice may require. Possibly there may be over the mill a mixing box, the workman pulling a slide

to allow the contents to fall into the mill. A few moments only are required for the mixing and the batch is ready for refining or grinding. This is accomplished by drawing the mill rolls together as tight as possible. The workman operating from the side of the rear or fast roll then takes off the compounded material in form of a very thin sheet. This grinding answers the double purpose of thoroughly incorporating with each other the various ingredients of the compound and of refining, by crushing, or bringing to view anything detrimental to it.

The batch is now ready for the calender, where it is sheeted to specified thicknesses, and cut to width required by that type of insulating machine that places insulation material about the wire in the form of strips. These passing with the wire between grooved rollers, are made to conform to and adhere to it, the surplus compound being trimmed away in the process. Where insulation is thick enough to admit of it, it can be applied in one or more coats. That is to say, a wire in passing once through the machine may receive the insulation in two or more layers, each differing in character, cost and color. Machines of this kind are also arranged to insulate more than one wire at a time, which adds greatly to productive capacity. One great advantage claimed for this method of applying insulation is that the application of a second layer performs the office of automatic repair upon any defects that may have developed in the first layer. While a two or three layer cover is not necessarily free from imperfections, it is clear that this method saves much repairing.

Another method of applying insulation is by means of the tubing machine, which receives the compound direct from the mixing mills. These machines are adapted to turn out insulation of a certain weight, hence the elaborate equipment required by a factory includes many sizes from the "pony" to the huge cable maker. Each machine is also supplied with a number of dies to meet requirements for different thickness of wall.

A tubing machine in working order would have in front of it a revolving table holding the coil of wire to be insulated. This wire passes first through an automatic measurement register, and thence through the tubing machine head. Here it receives the insulation coat, and then passes over a long, narrow, tale-covered table to the pan or drum on which it is wound. A firm stock is wound on drums, a soft stock in pans, where each layer is covered with tale to prevent flattening during the curing process or other injury. Thus prepared the wire is ready for vulcanization. This is accomplished in the open heat, requiring from thirty minutes to several hours, with heat ranging from 250° F. upward.

After curing, the wire with its covering of rubber compound, now for the first time "insulated wire," is wound in coils containing from a few hundred to several thousand feet. These are assembled according to grade and size in huge metal tanks, where they soak in water for twenty-four or more hours. The electric voltage is then applied and the electric current soon searches out any defects in the cover of the wire, breaking through it with a slight explosion that causes bubbles to rise to the surface of the water. Defects thus located are immediately repaired and voltage applied again, and the process repeated if necessary, until the insulation of the coil successfully sustains the electrical test.

[TO BE CONTINUED.]

INSULATION NOTES.

A SERIES of experiments by Teichmüller and Humann, in Germany, in relation to the heating of high tension cables buried in earth, demonstrated the depths below the surface at which the temperature of the earth is no longer influenced to a considerable extent by variations of the temperature of the atmosphere.

A patent issued recently to George Kelly discloses the fact that the discarded woven fabric clutes used for conveying con-

densed zinc oxide can be made into an insulating material when mixed with other ingredients. The discarded fabric is cut into sheets and moistened by brushing with or dipping into a liquid vulcanizing and binding composition composed of rubber, sulphur and liquid glass (silicate of sodium). The resultant product is described as a high-grade electric insulating board, slab, plate, or the like that is thoroughly homogeneous.

COTTON PRODUCERS AND CONSUMERS.

THE president of the Southern Cotton Association, Mr. Harvie Jordan, who is also editor of *The Cotton Journal*, published at Atlanta, attended the fourth International Cotton Congress, held in May in Vienna. The latter is an association primarily of consumers, whereas the Southern Cotton Association is composed of planters. Not the least interesting feature of the Vienna congress was the emphasis placed upon the community of interest between producer and consumer of cotton, instead of their being regarded, as in the past, as antagonistic.

There is a widespread interest in Europe in the efforts being made in various colonies to grow cotton on an extensive scale. Mr. Harvie, after a study of the situation, writes in his paper: "I do not think competition from abroad is likely to ever seriously affect the demand for American cotton, even though ultimately the most extravagant success should attend the efforts to grow cotton in large quantities in foreign countries." While he does not say so, it is evident that Mr. Harvie looks for such a continued growth of cotton consumption as shall long tax the world's productive capacity in this commodity.

We may suggest here that the mere fact that good cotton is grown, and economically, in an African colony does not point to an immediate great increase in the crop. For instance, the English administrator of a certain colony estimated recently that the territory in his charge, which has been proved to possess soil and climate suited admirably to cotton, had an area sufficient for producing as much cotton as is used in the United Kingdom. But a friendly critic of this official, at his home, called attention to the fact that the population of the colony was inconsiderable, and that a long time would be required to get the natives generally interested in the new crop.

Still Mr. Harvie feels impelled to write: "We must no longer be led astray by the false notion that the South is the only country where cotton can be grown." And he utters a warning against a continuance of the careless methods of marketing American cotton abroad which leads to many complaints from spinners. Neglect of this, he asserts, will result in "pushing the production of cotton in other countries so as to become more independent of America if possible."

The interest of this matter for the rubber trade is twofold. Every addition to the world's cotton producing area serves as a check to further advances in the price of cotton. Secondly, Every addition to the world's cotton producing area serves as a plantation and factory, increases the total efficiency, so to speak, of each crop, and is equivalent to an increase of production.

MONEY FOR UBERO CREDITORS.

CREDITORS of The Consolidated Ubero Plantations Co. are to receive a single dividend of 25 cents on the dollar, on claims amounting to \$58,701, under an authorization dated June 10, by Judge Dodge, in the United States circuit court in Boston. This company was incorporated in Maine May 2, 1902, with a large capitalization, and its affairs were so managed as to cause one of its leading promoters, Borges, to be sent to jail. In the summer of 1905 Jeremiah Smith, Jr., of the Boston bar, was appointed receiver for the company, in which capacity he was lately authorized to pay the dividend mentioned. The history of the company was stated at length in *THE INDIA RUBBER WORLD* May 1, 1905 (page 278).

The Amazon Rubber Country.

THE drawbacks to the rubber trade in its initial stage is illustrated by a paragraph in the latest report of the Amazon Steam Navigation Co., Limited: "Amazonian trade was again active, but a sudden and abnormal fall unusually early in the season—notably the Purús and its tributaries in the Acre district—caused much difficulty and inconvenience; a very large number of steamers having had to wait several months for sufficient water to allow of their return to Manaus and Pará. Several of the company's steamers were thus incapacitated for lengthened periods, but all ultimately returned safely to Pará, without having suffered seriously by their detention."

The Brazilian government has authorized a survey of the rivers Purús, Acre and Juruá, with a view to the improvement of navigation on them. These are the principal rubber-producing affluents of the Amazon, yielding about two-thirds of the rubber gathered in Amazonas state, besides most of the production in the Acre district. It long has been realized that the removable obstructions in these streams interfered greatly with the rubber trade, particularly with the regularity and promptness of shipments, but the government at Manaus at no time undertook measures for the improvement of navigation.

In many places rocks exist, capable of being removed without great expense, which interfere with shipping when the water is low. Besides, the annual freshets bring into the rivers many uprooted trees which become lodged in such a way as to prevent the passage of boats for weeks or longer at a time. The trouble caused is twofold; not only is the movement of rubber interfered with, but the carrying of food and other supplies upstream, sometimes causing actual suffering among the rubber gatherers and checking their work.

Now that the Acre district has become a federal territory, administered from Rio, with extensive revenues, a more liberal policy may be pursued with regard to river improvements than was shown at Manaus. Such a policy cannot fail to be welcomed by the rubber interests.

MADAME CONDREAU, widow of Henri Condreau, a Frenchman who distinguished himself as an explorer in South America, where he died and was buried in 1890, is seriously devoting her life to the continuation of his unfinished work. Since 1893 Mme. Condreau has spent the greater part of her time in the Amazon regions, first with her husband and now at the head of her own expeditions. Recently she left France for her fourteenth series of explorations, which will be conducted in the vast state of Amazonas. Her other work has been mainly in the state of Pará. This work has consisted in exploring the less-known affluents of the Amazon, for the purpose of bringing to light the resources of the regions traversed, the expenses being defrayed by the state. Among other things of value, Mme. Condreau has discovered important areas of *Hevea*, the tree that yields Pará rubber.

THE Galvez Rubber Estates, Limited, floated recently in London, with £150,000 [=\$720,975] capital, to acquire three adjoining rubber properties in the province of Chuapichan, department of La Paz, Bolivia, have begun operations. At a meeting in London on June 18, presided over by Frank Hillyard Newnes, M. P., he stated that the properties embraced about 2000 *estradas*, and the transfer had been completed of 1,000 *estradas*, and 450 rubber gatherers were at work. Their manager had sent word that about 22,000 pounds of rubber would be shipped in July, direct to Michelin et Cie., the French tire manufacturers, who were under contract to buy all the company's rubber, up to 600,000

pounds a year for twenty years. The company had sent to Bolivia £10,000 in payment for land, and £5,000 for working capital.

Frank Newnes is a son of Sir George Newnes, Bart., M. P., who is interested in The Incubari Pará Rubber Estates, Limited, in Peru [see THE INDIA RUBBER WORLD, June 11, 1907, page 284], and is himself a director in that company. He has personally visited some of the properties referred to. The Galvez properties are within the area some time held under a concession by Sir William Martin Conway, and one of them has been worked by J. Austin Pharoah, now associated with the Incubari interests.

Sir Martin Conway, named above, is now chairman of the board of The Incubari Pará Rubber Estates, Limited.

In reporting on rubber in Bolivia a Belgian consul says that within 20 years after caucho trees have been cut down a new growth may be found on the same area, which may then be worked again. He mentions 65 pounds as the average yield of the caucho trees.

At the time of the flotation of De Mello Rubber Co., Limited, in London, in July, 1906, only 175,000 of the 225,000 participating cumulative preference £1 shares were offered to the public. Since that date the remaining 50,000 shares have been issued, in order to meet the requirements of the company with regard to working capital. It was stated in the original prospectus that during five years the De Mello estates, partly in Amazonas and partly in the Acre territory, had yielded an average output of nearly 300 tons per year, rising in 1905 to 385 tons. It was expected that the current crop year would show a product of more than 500 tons of rubber. The company's preference shares have been admitted to quotation on the Paris bourse. It is stated that a half yearly dividend at the rate of 7 per cent. on the participating preference shares was paid on July 1.

THE Pará-Manaus cable of The Amazon Telegraph Co., Limited, has been working latterly with fewer interruptions than formerly, and the company are considering a branch line up the Madeira river to San Antonio. The traffic earnings for three fiscal years (ending June 30) have been: In 1904, £40,268; in 1905, £7,000; in 1906, £13,500. Meanwhile the subsidy received from the state has increased as the service has improved, owing to the lessened number of interruptions. If this improvement continues, it will soon be a thing of the past for the rubber market to be affected by a report that the cable has broken down.

THE Manaus Markets and Slaughter House, Limited, has been registered in London, with £500,000 [=\$2,433,250] capital, to acquire and run to account a concession for the establishment of markets and a slaughter house in Manaus, the great rubber center of the upper Amazon.

Exports of Bolivian rubber through the port of San Antonio, on the Madeira river, during five years were as follows [in kilograms]:

1900	780,930	1903	539,904
1901	870,515	1904	894,508
1902	586,335		

The exports for 1904 embraced 776,176 kilos fine rubber; 89,522 kilos coarse; 142 kilos caucho sheet; 28,668 kilos caucho ball. Of the total, 521,650 kilos were exported by the Suarez firm (Suarez Hermanos) headed by Nicolas Suarez, the forest "rubber king" of whom a sketch appeared in THE INDIA RUBBER WORLD April 1, 1905 (page 223).

An Early Leader of the Rubber Trade.

CHRISTOPHER MEYER, "RUBBER KING."

IN the days when the late Christopher Meyer was one of the most conspicuous figures in the rubber industry, being spoken of often as the "rubber king," and the possessor of the largest individual fortune that had ever been made out of rubber, portraits of private citizens were published less frequently than now. It is probable that his likeness was never seen in any other form than in a photograph, such as has been used as the basis of the portrait of Mr. Meyer given on this page—the first ever published.

Christopher Meyer was born at Hanover, Germany, on October 15, 1818, and died in New York on July 31, 1888. Deciding to seek his fortune in America, he found employment at the age of eighteen in a machine shop at Newark, New Jersey. His employer having contracted to install some machinery in the rubber factory of Horace H. Day, at New Brunswick, New Jersey, young Meyer was employed upon this, with the result that he attracted the attention of Mr. Day and passed into his employment. The machine shop referred to grew later to considerable proportions under the ownership of the late William E. Kelly, who at one time or another probably supplied machinery to every rubber factory in the country.

Speedily mastering the details of rubber working, Mr. Meyer became superintendent of the Day factory, but he was not long content to remain in a subordinate position. With the help of \$300 borrowed from James Bishop, a shipping merchant in the Brazil trade and at different times a stockholder in several rubber factories, Meyer in 1844 started a small rubber factory for himself, which burned a year later, leaving him without capital. In that year Mr. Bishop and his brother-in-law, John R. Ford, then a dry goods merchant, engaged in manufacturing rubber shoes under the name Ford & Co., and the services of Meyer were secured as superintendent. He also became a partner in the firm. Later Mr. Meyer established a factory at Milltown, New Jersey, which became the plant of the Meyer Rubber Co., incorporated in 1858. In 1861 the business of Ford & Co. was merged with it, and the company became one of the leading rubber footwear concerns, being to-day a constituent part of the United States Rubber Co.

In those days the eight factories licensed under the Goodyear patents to make footwear (and nothing else of rubber) covered the field very fully, and had little room for expansion at home. Having met with encouraging success in creating a demand for their products abroad, some of the American manufacturers decided to establish a rubber shoe factory in Scotland. The business there was founded in 1855 as Norris & Co., with eight "founders"—all Americans—including Messrs. Meyer, Ford and Bishop. Two years later the company became registered as the North British Rubber Co., Limited, at Edinburgh. Mr. Meyer was largely interested, and it is understood that some of his descendants still hold shares in the company.

Connected with Ford & Co. at an early date was Lewis L. Hyatt, who went to Edinburgh as superintendent of the factory there. Returning to America he established in 1870 the Hyatt Rubber Co., for making rubber shoes at New Brunswick, with himself and Messrs. Meyer and Ford equal partners. This be-

came later the New Jersey Rubber Shoe Co., and in 1892 was acquired by the United States Rubber Co. The factory occupied was that in which Mr. Meyer had taken his first lessons in rubber working, in making "shirred goods," under Day. The view of the building herewith shows its appearance in 1876, by which time it had become somewhat enlarged.

Mr. Meyer was also interested in the Novelty Rubber Co., incorporated in 1855, at New Brunswick, to make hard rubber goods (other than combs) under license from Goodyear. It had a marvelously profitable career for about ten years, paying dividends as high as 100 per cent., it is reported, but the business declined with the expiration of the hard rubber patents.

The large income derived by Mr. Meyer from rubber found investment in many quarters. He was at one time president of the Nashawannuck Rubber Manufacturing Co., and the Gledale Elastic Fabric Co., a director in the State Bank of New Brunswick, a director in the Cincinnati, Hamilton and Dayton and two other railroad companies, a fire insurance company, the

American Bank Note Co., and a gas lighting company. He was interested also in the Norfolk and New Brunswick Hosiery Co. Not all his investments were successful, however, and particularly in railway shares. The personal property inventoried in connection with the probating of his will amounted to \$3,500,000, but it is believed that his fortune at one time amounted to a great deal more.

Mr. Meyer had a thorough knowledge of the rubber industry, combined with great executive ability, and a genius for invention, which enabled him to obtain a number of patents which proved of value to the trade and of profit to himself. He married Miss Margaret Evans, at Milltown, New Jersey, in 1840. He was survived by a son, John Christopher Meyer, who would have succeeded to his property, but who died within a few months. Several married daughters still survive. Mr. Meyer's residence during the latter part of

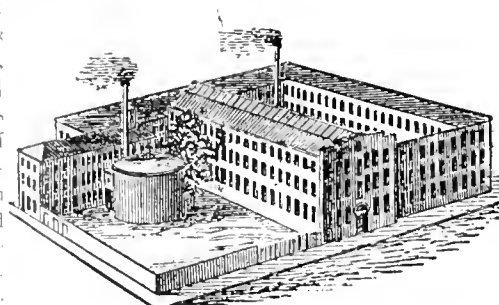


CHRISTOPHER MEYER.

[An American rubber manufacturer who was in his day the most conspicuous figure in the rubber industry.]

his life was in New York city.

It is understood that Mr. Meyer consistently declined all overtures made to him to join any combination in the trade, and he was credited with having more than once prevented, by his influence, the formation of a "rubber trust." The old factory of the Meyer Rubber Co., at Milltown, mentioned in the preceding column, has lately passed into the possession of the Michelin Tire Co. [See THE INDIA RUBBER WORLD, July 1, 1907—page 321.] This factory is not only one of the oldest rubber plants in the United States, but one of the most interesting in the way of very many historic associations.



DAY'S NEW BRUNSWICK FACTORY.

[Where Christopher Meyer started in the rubber trade. The factory was used later by the Hyatt Rubber Co. and the New Jersey Rubber Co.]

The Crude Rubber Field.

BALATA AND RUBBER IN BRITISH GUIANA.

THE possibilities of British Guiana as a rubber producing country have received considerable attention, according to a report on that colony in a recent Parliamentary paper. Rubber had been unknown as an article of export from the colony until two years ago, when a few hundred pounds were collected, and in the fiscal year 1905-06 nearly 4,000 pounds were exported. Already a few hundred acres have been planted with native rubber trees in the Northwest district, and several applications for concessions for rubber culture have been made to the government.

Balata has long been collected in important amounts in British Guiana, and owing to carelessness in the use of terms, has been referred to sometimes as "rubber." The colonial report quoted above says: "The highest recorded amount of balata was obtained during the year. The price at which it was selling being good, there was increased activity by all the licensees." The exports of this gum by fiscal years have been (in pounds):

1897-98....499,443	1900-01....425,371	1903-04....539,498
1898-99....468,509	1901-02....387,576	1904-05....501,509
1899-00....237,824	1902-03....549,800	1905-06....559,601

* * *

An action at law was instituted on May 4, 1907, at Demerara against the governor of British Guiana and the colonial commissioner of lands and mines by George Simpson Pitcairn, an engineer, and the British Guiana Rubber Corporation, Limited, seeking a mandamus to cause to be issued to the plaintiffs a license for collecting *Hevea* rubber and balata gum in certain areas for a term of years. Pitcairn claims to have had the promise of such license or concession and to have paid the legal fees required, and on September 27, 1906, the British Guiana Rubber Corporation, Limited, was registered in London, with £60,000 capital, for the purpose of exploiting the concession. A prospectus having been issued by the new company, the British colonial office issued a notice that no final undertaking to grant the licenses referred to had been made at the date of the prospectus, and that "those licenses have not been, and will not be, granted to the British Guiana Rubber Corporation, Limited."

Pitcairn's suit involves a claim for damages based upon estimated results from working the concession: "Net profits on the collection of rubber and balata for 5 years, on the bleeding of 30,000 trees yielding 6 pounds per tree per annum, at 72 cents per pound."

A later report is that the Full Court of the colony has decided this case in favor of Governor Hodgson, which is regretted by the Georgetown *Argosy* as tending to discourage enterprise in the colony.

Sir Frederic M. Hodgson, the governor, and his codefendant have filed an answer to the suit. They admit that the license to Pitcairn was approved in council, but it was not approved by the governor. They allege that the governor did not know Pitcairn as the agent of the rubber corporation and the governor had no dealings with the corporation, and they claim that a writ of mandamus will not lie against the governor, who is responsible for his official acts only to the Crown. The governor has been strongly appealed to by leading citizens to grant the concessions. The matter has even been brought to the notice of the British colonial office, which "considers it undesirable" that the Pitcairn action should be settled out of court.

* * *

BRITISH GUIANA is to have a rubber experimental station, for which public funds have been voted, with a view to deciding what rubber species is best adapted to culture in that colony. One matter to be taken in hand is to find out which of the vari-

eties of *Styrium* is the best producer of rubber. Several years ago Mr. Jenman, the government botanist, reported on the native rubber species of the colony, referring particularly to the *Hevea Spruceana* as a rubber tree of value.

"LANDOLPHIA DAWEI" AS A RUBBER PLANT.

Of the several rubber producing plants discovered in recent years in Uganda by Mr. W. T. Dawe, of the scientific department at Entebbe, one species of *Landolphia* is regarded as of exceptional value. It has been designated *Landolphia Dawei*. It furnishes an excellent rubber, specimens of which, sent to London, were valued at only 6d. [\approx 12 1/2 cents] below the best Ceylon plantation rubber at the same date. The vines grow rapidly under cultivation. At a botanic garden at Monte Café, island of St. Thomas, some specimens were grown under the belief that they were the *Landolphia florida*. At five years they had reached a height of 25 meters [\approx 82 feet]; at 12 1/2 years one specimen, height not given, measured 13 inches in diameter at the ground.

It was once generally believed that the *Landolphia florida* furnished good rubber, but nearly all later authorities have declared the vine useless, the product obtained from the latex being at first sticky and becoming hard and brittle on keeping. The only recent evidence in favor of *Landolphia florida*, it now appears, was due to the inaccurate identification of certain plants at Monte Café and elsewhere, now acknowledged to be really *Landolphia Dawei*. The worthlessness of *Landolphia florida* as a source of rubber may be regarded as fully established.

Landolphia Dawei, by the way, has been found as far west as Kamerun, and is considered likely to prove one of the most valuable of the *Landolphias*, on account of the rapid growth and liberal yield of rubber. Mr. Dawe's explorations have also established the fact that *Fontunia elastica*, the West African rubber tree, extends eastward into Uganda.

NOTES.

THE Editor of THE INDIA RUBBER WORLD has received a sample of a shrub or vine that grows very freely in French Congo and is known as grass or herb rubber and belongs to the *Landolphia* family. A curious thing about the shrub is, that unlike guayule, the rubber appears in the dried bark, not in solution in the cells, but coagulated, so that when a stalk is broken hundreds of filaments of rubber are shown. The rubber extracted from this shrub is excellent.

The discovery is reported of an abundance of "manicoba" trees (*Manihot Glaziovii*, or Ceará rubber) along the Parnahyba river, in the Brazilian state of Piahy.

The chief of the bureau of forestry in the Philippines, Major George P. Ahern, is quoted by a correspondent of the Chicago *Daily News* as saying that before the American occupation 400,000 pounds of gutta-percha were exported in a single year from Cottabato, in the island of Mindanao. The Americans placed restrictions upon the trade as a military necessity, but Major Ahern says that the gutta-percha export is reviving, and that as much as \$1,000 has been collected at Cottabato in a month under the law taxing exports at 10 per cent of the current selling price.

In the British protectorate of Southern Nigeria, West Africa, rubber is being planted systematically under government auspices. Something like 1,000,000 plants have been set, and they were reported lately to be doing well.

Henri Yves, inspector of agriculture for French West Africa, recently estimated that the planting of rubber in that government by the end of 1900 embraced about 4,000,000 lianes and 250,000 trees, and that the figures by the end of this year would reach 5,000,000 lianes and 500,000 trees.

THE EDITOR'S BOOK TABLE.

RUBBER IN THE EAST, BEING THE OFFICIAL ACCOUNT OF the Ceylon Rubber Exhibition held in the Royal Botanic Gardens, Peradeniya, in September, 1906. Edited by J. C. Willis, M. Kelway Bamber, E. B. Denham. (Peradeniya Manuals, No. 1.) Colombo: Government Printer, 1906. [Cloth, 8vo. Pp. viii+260 + maps and plates.]

THE authorities of the Ceylon botanic department have launched a long projected series of manuals of tropical botany, entomology, agriculture, and horticulture, by putting forth under their editorship a carefully prepared report of the Peradeniya rubber exhibition—the first of its kind ever held—including the lectures and discussions which gave the occasion the character of a rubber congress as well. The narrative account is well arranged, including descriptions of the exhibits and lists of the awards, besides which the lectures as given have had the benefit of revision by their authors. A good idea of the appearance of the exhibits is given by the numerous illustrations in the volume, and there are several maps of the rubber planting districts. As may be inferred from the title, this is not a Ceylon rubber book alone; the planting interests in Malaya are equally well represented. The contents of this volume, while of the same general character as the report of the rubber exhibition produced by the enterprise of the *Ceylon Observer* and already noticed in these pages, make of it, on the whole, a really different work. It is to be hoped that the editors of the "Peradeniya Manuals" will feel encouraged by the success of their first essay to make frequent addition to the series. We are not advised as to the price of this volume.

JAPANESE RULE IN FORMOSA. BY YOSABURO TAKEKOSHI, member of the Japanese Diet. Translated by George Braithwaite. London and New York: Longmans, Green & Co. 1907. [Cloth, 8vo. Pp. xv+342+27 plates and map. Price, 8s.]

For one who wishes to read a well written book by an intelligent observer, about a country which one perhaps has never seen described in a book before, though it is rich in history of a certain sort and full of strange people and things, Mr. Takekoshi's work can hardly fail to be of interest. Moreover, it helps give an insight into Japanese public policy, seeing that Formosa affords the first important illustration of how the Japanese work at colonization. We take it that much is bound to be heard of Formosa under Japanese rule, and the book before us will serve as an excellent first course in reading in regard to that island and its resources. Rubber is not treated by the author, but we have shown [see THE INDIA RUBBER WORLD, December 1, 1906—page 73] that Formosa has rubber resources of importance. But a chapter is devoted to camphor, of which the island is the world's chief supplier, and the conditions under which this gum is obtained doubtless are similar to what will prevail in forest rubber gathering when that becomes more general in Formosa.

AN INDUSTRIAL ACHIEVEMENT. POPE MANUFACTURING CO., Portland, Connecticut, 1897-1907. [Cloth, 4to. Pp. 88.]

THIS is no mere advertising book, though it must be admitted that "trade publications," so called, constitute an important part of technical and industrial literature. Whoever has ridden a bicycle is familiar with the name of Colonel Albert A. Pope, and when the history of good roads in America comes to be written no small share of the credit for the new era in highways will be given ungrudgingly to this enterprising New Englander who, while learning to ride an old-fashioned high wheel, first appreciated how very bad were the roads of this country. Times change, and businesses with them. Having placed himself at the head of the bicycle industry, at the time when that was of really commanding importance, Colonel Pope was in readiness, with the development of the automobile, to devote to the new vehicle the same measure of enterprise and energy that the bicycle had claimed from him in earlier days. The company of which he is the head to-day, while not dropping the bicycle, are most largely producers of motor cars, of many types, in a chain of factories stretching across the country.

It is recalled in THE INDIA RUBBER WORLD office that for some time after the vehicles now called automobiles began to be seen their development was still regarded as experimental, and it is just ten years since a leading article appeared in these pages, headed "Practical Introduction of the Horseless Carriage," pointing to a new and important demand for rubber tires, and in this article prominent mention was made of the Pope Manufacturing Co. From that time the automobile interest and the Pope company have grown apace, and this book: "An Industrial Achievement," is a welcome addition to the printed history of a remarkable development. The book is advertising matter, of course, but of such a high class, in every respect, that we shall be pleased to admit to review in this column any like publication that may be issued by any other house.

NOTES.

THE issue for February-March, 1907, of the *Annales de l'Institut Colonial de Bordeaux* is devoted to a report of a mission sent out from the institute to French West Africa to study the value of the rubber yielded by the "gohine" vine and the best means for collecting it. The gohine plant (native name) has been described as the *Landolphia Heudelottii* and also as *L. Senegalensis*. The mission reports favorably on the quality of the rubber, and its recommendations with regard to its treatment are likely to prove of value.

"La Culture Industrielle du *Ficus elastica*" has been reprinted in pamphlet form from the *Bulletin de l'Office du Gouvernement Général de l'Algérie* (Paris). It is a general account of this species, with special reference to the experiments with it by Professor Borzi at Palermo, Sicily.

"On a New Rubber Vine" is a report (in Japanese) by Takiya Kawakami, government expert in the bureau of productive industries in Formosa. It is printed, half-tone pictures and all, at Taihoku, Formosa. The plant is the *Ecdysanthera utilis*, named by B. Hayata, in the *Tokio Botanical Magazine*. The plant was described in THE INDIA RUBBER WORLD, December 1, 1906 (page 73).

AMERICANS IN THE CONGO.

THE mission of the Société Internationale Forestière et Minière du Congo, referred to already in these pages, left Antwerp on May 30 by the steamer *Bruxellesville*. The party included R. Dorsey Mohun, chief; S. H. Ball, of the United States Geological Survey, chief geologist and second in command of the expedition; Messrs. Shaler, Olivier and Smith, also on leave from the geological survey; A. Reid and B. Reid, brothers, prospectors; Dr. Hollebeke, physician; Messrs. Cordé and Reniers, agents. Mr. Mohun was United States commercial agent at Boma, on the Congo, in 1892-95, and United States consul at Zanzibar in 1895-97, after which he was in the service of the Congo Free State as a district *commissaire* of the first class. Dr. Hollebeke goes prepared to continue his experiments in the treatment of the sleeping sickness. The *Bruxellesville* also carried to the Congo four agents of the American Congo Co.

The Mohun expedition has gone out for two years' work in prospecting. King Leopold, who takes a special interest in the expedition, received Messrs. Mohun and Ball at Laeeken before their departure, and, a Belgian newspaper reports, "conversed with them for more than an hour in the most cordial manner."

MOTOR CARS AND RUBBER.—It is to be presumed that in the course of a few years the many rubber plantations now being laid out will greatly enhance the world's total yield, and that then the price of rubber may fall. From present appearances the automobile cannot flourish without the rubber tire, and any development tending to reduce the cost of rubber and rubber tires means increased practicability for the motor car.—*The Horseless Age*.

Progress of Rubber Planting.

THE LONDON RUBBER SHARE MARKET.

WITH serious depreciations in share values reported in practically every section of the Stock Exchange, it is a matter for congratulation, says the *London Financier*, that the rubber share market has escaped participation in what, without exaggeration, can be termed the universal slump in prices. In many cases it is true that plantation share quotations are not so good as they were some time ago; on the other hand, the prices of the leading shares are higher, and the market in them more active and steadier than was the case at the beginning of the year. There has been some fairly heavy selling of these shares, and these orders, almost without exception, says the *Financier*, came from investment or semi-speculative holders who, having been "hard hit" by the slump in railway shares and the like have been obliged to dispose of their sound marketable securities, and this forced selling has embraced rubber shares. Generally, says the *Financier*, the rubber shares when they pass from the hands of the original or early holders are taken by investors who mean to stick to them like glue, and the recent forced selling gave the purchasers opportunities for acquiring shares which, had Stock Exchange conditions been more favorable, would never have come upon the market at all.

MEXICAN PLANTING INTEREST.

MEYER NEWMARK, owner of "El Retiro" plantation, a privately owned property at Santa Rosa, state of Vera Cruz, Mexico, near Mr. James C. Harvey's "Buena Ventura" estate and several company owned rubber plantations, is reported by the *Mexican Herald* as planning to begin tapping this year his eight year old rubber trees, of which he has about 10,000. The Mexican Mutual Planters' Co. are also mentioned as about to begin tapping, and also the Société Anonyme Santa Rosa [see THE INDIA RUBBER WORLD, June 1, 1907—page 272].

The escrow created by the trust deed of July 8, 1898, between the Mexican Mutual Planters' Co. and The Equitable Trust Co., of Chicago, as trustee, under which the latter held 1000 of the plantation bonds provided for by said deeds, has been terminated, and the bonds delivered to the Mexican Mutual Planters' Co.

The Castillio Rubber Plantation Co., incorporated under the laws of Oregon, November 10, 1906, has secured control of 5,000 acres of land in "Dorante's Survey," in the Department of Palanque, Chiapas, Mexico, on which they are planning to plant *Castillioa elastica* extensively. There are several other rubber planting companies in the neighborhood of their tract, which is twelve miles from Montecristo, on the Usumacinta river, navigable for steamers from the Pacific. The officers include W. H. Bebarrell, president; J. C. Roberts, secretary, and C. V. Cooper, manager, and the offices are in the Chamber of Commerce building, Portland, Oregon.

THE "IOWA" RUBBER PLANTATION.

THE "Iowa" plantation of The German American Coffee Co. now includes about 3000 acres of *Castillioa* rubber, some of it planted as early as 1900, all reported to be in good condition. Experimental tappings will be made this year. The plantation is on the river Michol, near its confluence with the Tulija, about 10 miles from El Salto, in the state of Chiapas, Mexico. The company are large producers of coffee, on the "Triunfo" plantation, also in Chiapas, opened about 13 years ago. At the last annual meeting it was decided to buy, at a cost of \$140,000, the building No. 406 Greenwich street, New York, used by the company as a coffee roasting plant, the purchase to be made from the profits of 1906. The company is a New Jersey corporation, with headquarters in New York and branches in a number of cities. The capital stock issued is \$1,541,300.

CEYLON AND THE MALAY STATES.

THE Pelmadulla Rubber Co., Limited, in Ceylon with 1,085 acres planted to rubber (241,760 trees), estimate the average cost per planted acre at about £8 [\approx \$38.93], which would work out at about 20 cents (gold) per tree. They are tapping a few trees this year.

The production of rubber by the Anglo-Malay Rubber Co., Limited, in the Malay States, during May was 15,895 pounds against 4,656 pounds in May last year. The production during the twelve months of 1906 reached 91,719 pounds.

All the shares of the Anglo-Malay Rubber Co. 150,000 at £1 each have now been issued, and all listed by the London Stock Exchange.

Lanadri estate, in Johore, owned by E. Pears, yielded 7,305 pounds of rubber in April, bringing the total since January 1 to 29,520 pounds.

At the annual meeting on April 29, of the United Planters' Association of the Federated Malay States that body ceased to exist, but was reorganized immediately as the United Planters' Association of the Malay Peninsula, thus widening to an important extent the territory represented by the membership. R. W. Harrison, chairman of the old association, and H. C. E. Zacharias, secretary, were elected to like positions in the new. Rubber planting will be the chief interest in the enlarged field of the organization, as it was in the old. The tenth annual report of the association showed 153,150 acres in private hands in the Federated Malay States at the end of 1906, with 52,843 acres under cultivation, of which 49,033 were under rubber.

PROFITS FROM "FICUS" AT CHARDUAR.

OF all the rubber plantations ever formed, probably the one about which most has been written, both in the way of information and misinformation, is the government experimental plantation of *Ficus elastica*, formed in 1873 at Charduar, in Assam. This was a small undertaking from the standpoint of acreage, but it has proved such a commercial success that the government is convinced that the experimental stage has now been passed and that the time has now come for disposing of the plantation by sale or lease. The net revenue for the last year was 23,381 rupees [\approx \$7,585.56].

TO PLANT RUBBER IN JAVA.

THE Simo Rubber Estates, Limited, was floated in London in June, with £350,000 capital, to acquire a group of estates known as Simo, in the north of Java, and to develop the cultivated rubber (*Castillioa* and *Ficus elastica*) now growing thereon, and to plant Pará rubber extensively. The estates already afford a profit from coffee, cacao, indigo, and pepper, which crops are expected to continue in bearing until the rubber becomes productive. The London company takes title from an Amsterdam company, at a valuation of £22,000. The directors of the new company hold similar positions in rubber plantation companies operating in Java and Ceylon.

SHANGHAI'S FIRST RUBBER COMPANY.

THE Dominion Rubber Co., Limited, has been formed by English residents of Shanghai, under the Companies Ordinance of Hongkong, with a share capital of 225,000 taels [\approx \$168,800 gold], to purchase two rubber plantations in the Federated Malay States. They are G. L. Bailey's "Dominion" estate, in Selangor, and "Hendri" estate, owned by E. T. C. Garland, in Perak—each with 640 acres, with a total of 214 acres planted to rubber within two years, besides nurseries for further planting. The vendors take 52,500 taels in shares and 23,100 in cash, the latter being the amount expended on the properties to date.

CULTIVATED RUBBER FROM NEW GUINEA.

THE exhibit of the products of the Neu Guinea Compagnie, of Berlin, at the recent German Army, Marine, and Colonial Exhibition, at Berlin, served to call marked attention to the success of this important enterprise. The company are successfully planting a number of crops, the most important of which to date is coconuts, though it is designed ultimately to make rubber the most important. The specimens of rubber shown were considered the finest ever seen in Germany, including *Hevea*, *Castilloa elastica*, and *Ficus elastica*. The company had standing on their plantations according to a late report 420,017 rubber trees, the oldest being now in their ninth year, since which time further planting of rubber has been done. Of these, 277,701 were *Castilloa*, 128,238 *Ficus*, and 20,918 *Hevea*.

PLANTING IN GERMAN AFRICA.

THE Kautschuk-Pflanzung "Meauja" Aktiengesellschaft, of Berlin, founded in 1903, with 1,000,000 marks [= \$238,000] capital, to plant rubber in the German colony of Kamerun, in West Africa, have issued three yearly reports, showing the following amount of planting of *Kickia* (*Funtumia*) *elastica*: 617 $\frac{1}{2}$ acres in 1904; 148 $\frac{1}{4}$ acres at the end of 1905 (with 230,400 trees); 593 acres at the end of 1906. The company are also planting cacao.

RUBBER AT A WEST AFRICAN FAIR.

THE recent agricultural show in the British colony of Lagos, in West Africa, which embraced some 2,500 exhibits for competition, was in many ways successful. It was opened with an address by the governor, Sir Walter Egerton, who took occasion to impress upon the native chiefs present the desirability of advising their people to plant rubber (*Funtumia elastica*) trees. He said: "On my recent visit to Berrin I saw several of these plantations in a most flourishing state, and the inhabitants are already beginning to realize that they are likely to become profitable." The list of exhibits at the fair included: Rubber milk, 8 exhibits; rubber, prepared, 14; preparation of rubber, 3. Nine cash prizes were awarded, amounting in all to £23 [= \$111.92].

A RUBBER TAPPING BOX.

A NOVELTY in connection with work in rubber forests and on plantations is a special "travelers' box" for rubber explorers and also estate managers, fitted with appliances for tapping trees and coagulating latex, by various methods. The box contains an assortment of tapping tools, cups for receiving latex, various other latex receptacles, a small smoking outfit, a hand press, and coagulating agents. This is supplied by Gustave Van den Kerekhove, the rubber expert, 20, Rue de la Ferme, Brussels.

STATISTICS OF RUBBER PRODUCTION.

THE figures below relate to the quantities of rubber exported from the various British colonies named, and are derived from official reports. These figures are presented here not to prove anything in particular, but as a matter of historic record. It may be pointed out, however, that while the five colonies named yielded ten years ago nearly 11,000,000 pounds of rubber, their exports for the last year named amounted to only about 5,000,000 pounds.

GOLD COAST COLONY.

Pounds.	Pounds.
1897..... 4,957,010	1902..... 1,599,971
1898..... 5,984,984	1903..... 2,258,981
1899..... 5,572,554	1904..... 4,913,837
1900..... 3,452,440	1905..... 3,687,778
1901..... 1,520,000	1906..... 3,649,668

LAGOS.

Pounds.	Pounds.
1893..... 50	1900..... 596,332
1894..... 5,807	1901..... 194,277
1895..... 5,209,503	1902..... 151,440
1896..... 6,484,363	1903..... 131,311
1897..... 4,458,327	1904..... 265,458
1898..... 3,778,266	1905..... 266,560
1899..... 1,993,525	1906..... 927,638

SIERRA LEONE.

Pounds.	Pounds.
1896..... 1,491,392	1901..... a 131,655
1897..... 1,305,666	1902..... 103,040
1898..... 649,712	1903..... 107,520
1899..... a 540,385	1904..... 152,320
1900..... a 274,646	1905..... 425,600

[a—For these years the official returns are in pounds; for other years in tons or cwts., and converted here into pounds.]

BRITISH CENTRAL AFRICA PROTECTORATE.
[Years ending March 31.]

Pounds.	Pounds.
1897-98..... 21,416	1902-03..... 11,723
1898-99..... 91,264	1903-04..... 4,262
1899-00..... 118,720	1904-05..... 17,664
1900-01..... 85,994	1905-06..... a 17,283
1901-02..... 14,393	

[a—Includes 525 pounds cultivated rubber.]

BRITISH HONDURAS.

Pounds.	Pounds.
1899..... 19,895	1901..... 40,044
1897..... 13,797	1902..... 30,338
1898..... 37,622	1903..... 22,176
1899..... 55,321	1904..... 28,042
1900..... 48,996	1905..... 22,926

NEW TRADE PUBLICATIONS.

THE SCHAEFER RUBBER Co. (Cincinnati), successors to the long established firm of Kohmescher & Co., have brought out a new catalogue of rubber goods for the household, surgical use, stationers' and toilet supplies and the like, representing the products of a number of leading makers. [9" x 5 $\frac{7}{8}$ ". 100 pages.]

MASSACHUSETTS CHEMICAL Co. (Walpole, Mass.) issue a new catalogue and price list of Insulating Materials, embracing a number of special products of interest. The company's Walpole Rubber Works also turn out a variety of mold work. [6" x 5". 91 pages.]

THE DIAMOND RUBBER Co. (Akron, Ohio) send us "A Book of Instructions to Automobile Tire Users," in which is incorporated a catalogue of "Diamond" 1907 wrapped tread tires and the tire accessories made by the company. A liberal and helpful use is made in the book of illustrations of the articles referred to. [5" x 7". 80 pages.]



PLANTED CEARA RUBBER ("MANIHOT GLAZIOVI")
[One year old; plantation at La Paz, Nicaragua.]

New Rubber Goods in the Market.

THE "IRIS" WOMEN'S SHOE.

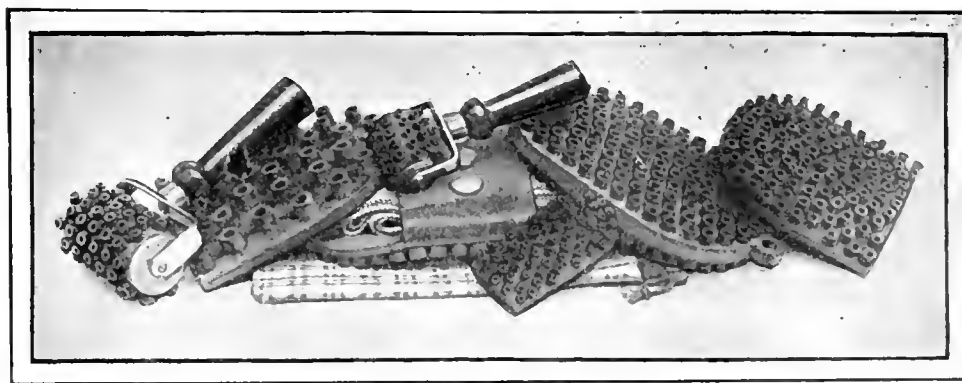
A NEW style in women's rubber footwear is the "Iris," of which an illustration is given here. It might be said that what this shoe lacks in quantity it makes up in quality. There is just as little of it as possible, and this very fact accounts for its being the "winner" that it is said to be. But the end it seeks is accomplished, for it insures dryness and that is all any rubber can do. The "Iris" shoe is cut as low as possible over the toe and at the sides, but high in the back. So low is it that at first it might seem to suggest slipping, but it doesn't. Lightness, attractive cut and good fit are qualities that combine well, and each vies with the other for first place in its recommendation. It is made on "Colonna" and "Cuban" lasts, in F and M widths. [Boston Rubber Shoe Co.]



THE "IRIS" WOMEN'S SHOE.

"VITA" HOLLOW TOOTHED RUBBER BRUSHES.

MASSAGE is receiving an increasing share of attention, perhaps more especially the attention of femininity, inasmuch as its practice may be made to develop the lines of beauty quite as well as the lines of health. There are three divisions into which massaging is generally divided—centripetal strokings, friction, and percussion. The first aims to stimulate the circulation by treatment affecting the heart; the second are circular manipulations performed over the muscles; the third—of two kinds, tapping and punctuating—is a means of developing firmness of flesh and



"VITA" HOLLOW TOOTHED RUBBER BRUSHES.

roundness of contour. The "Vita" hollow toothed brushes are flat ended, with hollow cups, and provide a surface of softness and resilience. The stimulating effect of the hollow cups is deeper than the skin, taking hold of the muscles and tissues and giving new life and action and developing the body to natural lines. The illustration shows the revolving brushes, the shampoo mitt, bath and massage brush, sponge brush, massage mitt, and tooth brush. The revolving brushes in the two sizes lend themselves especially to the purpose for which they are designed—that of a beautifier, and the crowning cylinder, for use about the eyes, nose, and mouth, is a special feature. The suction cupped cylinder stimulates the expulsion of secretions and impurities

through the pores, also, by stimulating blood vessels, it increases the flow of blood to the surface, thus supplying nourishment necessary to produce firm, healthful flesh. The rubber mitt is suggested for use on the scalp with the back and forth motions. These suction brushes are now being made in the form of applicators for use on vibratory massage machines. [The Flexible Rubber Goods Co., Winsted, Connecticut.]

THE "BLIZZARD" TIRE CASE.

THE 1907 model of the "Blizzard" tire case is one of the simplest yet. Simplicity marks a long stride towards very general acceptance of any article, and it might almost be said that this in itself stamps it as the "real thing." This tire case is actually adjusted without fastenings. It "slips on, holds fast, and fits smooth." It is adjustable in length, one size fitting tires from 28 to 32 inches in diameter, while another fits tires from 32 to 36 inches in diameter. It is also adjustable in width. There is one size to fit tires 2½ to 3 inches thick, another to fit tires 3½ to 4 inches thick, and a third to fit tires 4½ to 5 inches thick. These sizes will fit practically any tire in use. They are made in artificial leather and enameled duck. [The Vehicle Apron and Hood Co., Columbus, Ohio.]



"BLIZZARD" TIRE CASE.

THE MEAD FASTENER, FOR SHOES.

THE easy, secure, simple and durable shoe fastening seems to have been combined in the Mead fastener. In the first place the variety of styles to which it may be applied is practically unlimited. For the pump shoe it affords a snug ankle fit and prevents the distressing slipping at the heel which sometimes has to be endured, and for overshoes, overgaiters, etc., it is just as good a friend as for the house shoe. In its entire absence of mechanism it makes the strongest plea for recognition, there being no springs, no catches and no snaps to be in constant danger of getting out of order and coming unfastened. It is referred to as the only fastener with a "take up." Buttons for this fastener may be made in all colors and shades, which makes it possible to have

perfect harmony and blending of colors so much in vogue at this time in footwear. One half inch variation is given over the instep, and when fastened it lies perfectly flat. [The F. W. Lever Co., Haverhill, Massachusetts.]

"STANDARD" CRAVENETTE OVERGAITERS.

RAINPROOF overgaiters are something quite new, though it is a wonder why their advent has been so long delayed. The raincoats, of which there are so many worn, will, after this, be but a part of the rainy day equipment, as the gaiters and leggings will play their part in protection from the storm. These leggings will be particularly welcome for children, and, being dustproof

as well as waterproof, will not spot, which makes them doubly to be desired. For women they are made in six and ten button lengths, and for men in five and eight buttons. For people who prefer to wear low shoes the year round with the coming of cravenette overgaiters the problem of comfort is solved. S. Rauh & Co., No. 310 Sixth avenue, New York, control the sole rights of manufacture in the United States.

THE COVER RUBBER GOGGLE.

A new rubber goggle consists of a single piece of pure gum, with curved and tapering walls projecting from the lens holding portions and terminating in a flat, yielding cushion which fits air tight. For the use of firemen in smoke and fumes, mica



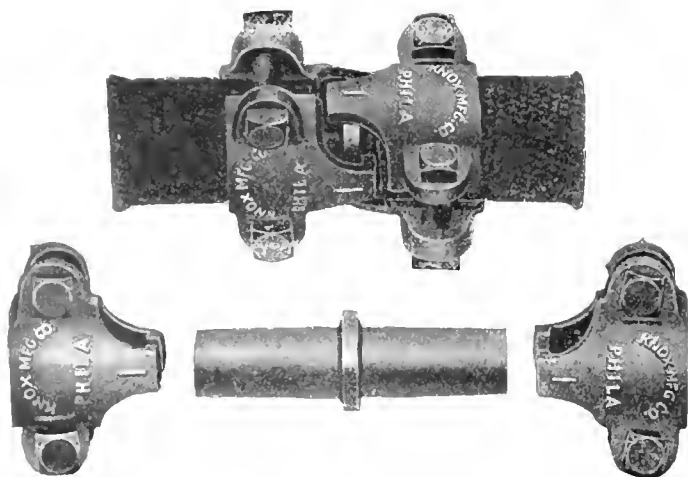
COVER RUBBER GOGGLE.

lenses are used, because broken glass would endanger the eyes. For general use, large, clear glass lenses are employed which fit into grooves with elastic flaps and are air tight the moment inserted. The lenses can be removed, cleaned, and inserted again in a moment's time. The desirable features of this new goggle are the simple construction of a single piece of pure rubber, which is light; the setting of the glasses air tight the moment inserted, and the elasticity of the cushion members and their close air tight contact with the flesh about the

eyes, even with the most irregular features. When desired, the goggle is ventilated by perforating the curved flange with a number of small holes. This goggle is also adapted to use by chemical workers, foundrymen, grinders, polishers, and the like. The forms and details of construction of this new goggle have been covered by three United States patents, and patents have been issued or are pending in foreign countries. [H. S. Cover, South Bend, Indiana.]

GOODALL HIGH PRESSURE HOSE MENDER.

THE high pressure hose mender here illustrated is manufactured in connection with the Goodall hose coupling described in these pages last month. The same style clamps as those used



GOODALL HIGH PRESSURE HOSE MENDER.

with the coupling are employed here, the mending tube having a collar in the middle to which lugs or clamps catch. This device enables an absolutely safe and reliable splice to be made. [Knox Manufacturing Co., No. 153 North Fourth street, Philadelphia.]

RUBBER SHOES BY THE DIPPED PROCESS.

A PROCESS of manufacturing overshoes for which United States patent No. 832,278 has been granted consists (1) in depositing rubber in liquid form over a foot form; (2) allowing the deposit to assume a more solid character; (3) placing a reinforcing piece of sheet-rubber-containing material over the foregoing; (4) depositing a thin film of rubber containing material over the whole; and (5) vulcanizing. The working of the invention is best carried out by dipping the foot form into a bath of liquid rubber, both before and after the addition of the reinforcing piece of sheet rubber. Instead of a single bath of the



EMERGENCY RUBBER SHOE.

foot form, in the first step of the process, any number may be used, to make a shoe of greater weight or thickness, and the reinforcing sheet may be cemented on, together with a sole piece, if desired. The result, in brief, is to make a shoe by the dipped process. The product is an exceptionally light shoe, designed especially for ladies' wear. It is suited for being carried in small compass, as a precaution, when one is starting out in fair weather, but with rain threatening. [Emergency Rubber Co., Rochester, New York.]

RUBBER BUBBLES.

By the invention of "rubber bubbles" one of the greatest joys of childhood has been robbed of its unpleasant feature—soap and water. This makes it a most welcome successor to the old-fashioned method of blowing bubbles when wet clothing, wet boys and girls, and wet everything seemed to be the outcome. Yet such innocent sport can hardly be denied, and to the genius who has made it possible to allay the attendant fears of ruined



carpets, additional laundry work, general untidiness, and often contracted colds, will have the blessing of every household where there are children. The Rubber Bubble outfit consists of a small pipe (which, by the way, is not breakable), and rubber bubbles. The bubbles are easily adjusted in the owl of the pipe and inflated. When it has reached a diameter of about six inches a slight tossing motion will enable it to leave the pipe and go sailing over the room, a valve in the stem end keeping it inflated. Red and blue bubbles of the finest rubber make the children wild with delight. [The M. Lindsay Rubber Manufacturing Co., Washington, D. C.]

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JUNE 4, 1907.

- N**O. 855,414. Sprayer for hose nozzles. J. A. C. Co., Chicago, Ill.
 855,468. Wheel tire. [Solid rubber, with metal studded tread.] T. Mideley, Hartford, Conn.
 855,627. Air tube for pneumatic tires for wheels. [Lined with borlime and chalk.] T. H. B. Gagner, South Melbourne, Australia.
 855,693. Apparatus for vulcanizing tires. J. C. Cole, Chilopee Falls, Mass., assignor to The Fisk Rubber Co.
 855,712. Protective cover for pneumatic or elastic tires. [Flat band armed with metal plates or studs.] J. L. P. LeGard, Paris, France.
 855,818. Pneumatic tire [composed of a plurality of segmental air chambered sections.] W. R. Smith, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
 855,868. Cement composition and process of making the same. Andrew Thoma, Cambridge, Mass., assignor to Thoma Corporation, Portland, Me.
 855,884. Pneumatic tire. J. H. Green, Springfield, Ill.
 855,899. Syringe regulating means for belts. E. D. Mercel, Toronto Junction, Ontario.
 856,012. Means of testing insulated wires. N. A. Wolcott, assignor to The Packard Electric Co., both of Warren, Ohio.
 856,027. Auxiliary felly and tire. [The tire pneumatic.] Charles Backland, Havana, Cuba.
 856,063. Expandable pipe cleaner. [Described in THE INDIA RUBBER WORLD, July 1, 1907, page 309.] L. O. Howell, assignor to Sanitary Appliance Co., both of Philadelphia.
 856,065. Pneumatic tire. A. J. Jackson, Toronto, Ontario.
 856,081. Vehicle wheel. [Comprising a rim channel for a pneumatic tire, with attachable flange.] T. Mideley, Hartford, Conn.
 856,093. Syringe nozzle [with a catheter extremity adapted to enter a cavity.] H. F. Ong, Portland, Ore.

Trade Marks.

- 6,523. George A. Alden & Co., Boston. *Ai* in heavy monogram, underneath which are the letters *M. R.*, all enclosed in a circle.
 19,723. W. M. Habirshaw, Yonkers, N. Y. The word *Habirshaw*. For insulated wires, cables, and cords.
 26,123. H. J. M. Howard, Washington, D. C. The word *Ajax*. For fire hose.
 27,087. The Republic Belting and Supply Co., Cleveland, Ohio. The word *Apollo*. For rubber belting, hose and packing.
 27,192. The Goodyear Tire and Rubber Co., Akron, Ohio. A circle enclosing a winged foot and the words *Goodyear* and *Heavy Tourist*. For elastic vehicle tires.

ISSUED JUNE 11, 1907.

- 856,241. Portable self contained tire vulcanizing apparatus. [A steam generator with vulcanizing surface, a burner connected therewith having a curved upper service, and a shield curved to conform to this surface and movable over the burner.] H. H. Frost, London, Lugland.
 856,320. Hose rack. R. D. Wirt, Philadelphia.
 856,320. Vehicle wheel. [With rim in circular sections adapted to hold a solid rubber tire.] F. D. Woods, Syracuse, N. Y., assignor of one-third (1) to H. A. Slack, (2) to W. A. Hyle, and (3) to E. A. Paul and C. Ecker.
 856,387. Innersole for shoes. [Embracing a layer of rubber sponge.] J. Belanger, assignor to J. Belanger, Labine & Co., both of Springfield, Mass.
 856,401. Hose coupling. E. J. Hannold, assignor to C. A. Witherspoon, trustee, both of Mexico, Mo.
 856,411. Sectional pneumatic tire. C. P. Mams, assignor of one-half to G. Deddens, both of Cincinnati.
 856,447. Automobile tire. [A central pneumatic tube, with a plurality of solid rubber tread tires.] F. D. G. Cook, Chippewa Falls, Wis.
 856,491. Pneumatic tire clip. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
 856,595. Overshoe retainer. [Molded of soft rubber, its lower part conforming to the inner wall of the heel and cemented thereto, its upper part standing inward from the cemented part and conforming to the receding part of the heel above the ball.] G. E. Zeigler, Economy, Pa.
 856,526. Tire for vehicle wheels. [Comprising a plurality of air sacks, with means for their inflation.] T. F. Hamilton, Chicago.
 856,620. Belt, apron, canvas, or conveyor tightener. G. E. Clarke, Toronto, Ontario.
 856,657. Automobile tire. [Comprising metallic springs within a rubber casing.] C. F. Obrecht, Baltimore, Md.
 856,743. Pneumatic tire. [The combination of the inner pneumatic tube with a continuous shoe enclosing the tube, a series of continuous circumferential removable wearing sections enclosing the shoe and arranged

side the shoe, and a series of removable wearing sections on the shoe, said sections being of different shapes.] H. J. M. Howard, Washington, D. C.
 856,816. Needle tire hose. H. J. M. Howard, Washington, D. C.

- 38,616. Ornamental design for a tire. [A tire with a decorative pattern.] J. M. Howard, Washington, D. C., assignor to Lamberville Rubber Co.

Trade Marks.

- 26,124. H. J. M. Howard, Washington, D. C. Mark 2 in a tire hose, the center line being in yellow and the side lines in yellow.
 26,125. H. J. M. Howard, Washington, D. C. Marking for tire hose, the center line being in green and the boundary lines in red.
 26,925. The Rubber Products Co., Barberton, Ohio. Picture of an anchor surrounded by the words *Anchor Brand* and two stars, all enclosed within a rope border. For fountain syringes.
 27,092. Continental Rubber Co., Jersey City, N. J. A broken square in which the word *Square* appears. For raw rubber, and substitutes therefor.

ISSUED JUNE 18, 1907.

- 857,007. Toy. [Comprising an inflatable bulb.] T. J. McCormack, Milwaukee, Wis.
 857,196. Gasket for pipe couplings. T. Pendreast, assignor of one-half to J. Hertzler, both of Lancaster, Pa.
 857,134. Gasket. E. A. Wilcox, Chicago.
 857,281. Ball bearing tube for tires. [A device for holding up collapsed tubular tires.] W. Hogben, Leamington, Mass.
 857,335. Wheel. [Comprises metal axle box, hub, spokes, felly and tire mounted upon axle box and composed of integral resilient material, the resiliency of the wheel being greatest in the tire, and least in the hub.] F. Ephraim, San Francisco.
 857,395. Guard for tires. [Plurality of plates flexibly connected and means for connecting the ends.] C. R. Saunders and A. B. Bretweg, Cleveland, Ohio.
 857,495. Machine for filling fabric for tires. W. R. Smith, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.

Trade Marks.

- 11,544. Turner Brothers, Ltd., Rochdale, England. The word *Firefly* on a black and white diamond shaped background. For engine packing and hose pipes.
 25,887. Pacific Coast Rubber Co., Seattle, Wash. A four-leaf clover with the letters *P. C. R. C.* on the leaves. For rubber shoes, clothing, and sundries.
 27,429. Continental Rubber Co., Jersey City, N. J. A broken triangle with the word *Triangle* on one side. For crude rubber and substitutes therefor.

ISSUED JUNE 25, 1907.

- 857,578. Storm garment. Ida V. Benoit, New York city.
 857,709. Erasing appliance for use in typewriting. C. White, Baltimore, Md.
 857,726. Method of making leather tires. G. Durio, A. Durio, and G. Martina, Turin, Italy.
 857,745. Tire. [Composed of superposed layers cemented together at the sides and detached at the tread, and of a solid anti-friction material between the detached portions of the layers.] F. Mesinger, New York city.
 857,771. Belt conveyor. [Relates to the support.] E. G. Thomas, Brookline, Mass.
 857,772. Belt conveyor. *Same*.
 857,799. Automobile tire. [Having elastic metal bands in the tread.] G. M. Ewing, Cedar Rapids, Iowa.
 857,831. Wheel rim. [Adapted to a solid rubber tire.] F. K. Rand, and W. R. Hines, Cleveland, Ohio.
 857,871. Vehicle tire. [Removable protective casing for inner tubes.] J. B. Demais, assignor of one-third each to W. L. and A. M. DeZaetz, both of Chicago.
 858,029. Pneumatic tire. [An outer tube, containing a convex convex air tube and a double convex core between the core and the tread.] M. V. Rush, Anshelm, Ind.
 858,131. Overshoe. S. Schwarzschild, assignor to The Rubber Products Co., both of Rochester, N. Y.
 858,028. Apparatus for the manufacture of elastic tires. R. M. Whitman, Providence, R. I.

Trade Marks.

- 5,106. American Hard Rubber Co., New York city. The words *Crown Crown*, *Flexa*, surrounded by a wreath and all surrounded by a crown. For sheet rubber.
 10,776. American Hard Rubber Co., New York city. The letters *A. H. R.* in semicircle and joined at the base. For hard rubber bowling balls.

18450. The Diamond Rubber Co., Akron, Ohio. Two small diamonds, each enclosing the letter *D*, and between these diamonds a *fleur-de-lis*. For hose, belting, and packing.
- 24,526. Continental Rubber Co., New York city. The words *Circle Brand* between the double lines of a circle. For rubber that has been washed or otherwise treated to eliminate dirt.
- 24,527. Continental Rubber Co., New York city. A guayule shrub. For rubber and rubber that has been washed or otherwise treated to eliminate dirt.
- 24,528. Continental Rubber Co., New York city. A double circle surrounding a guayule shrub, and between the two lines of the circle the words *Circle Brand*. For rubber that has been washed or otherwise treated to eliminate dirt.
- 24,529. Continental Rubber Co., New York city. The letters *C M R Co.* For rubber that has been washed or otherwise treated to eliminate dirt.
- 24,530. Continental Rubber Co., New York city. A circle just out side of which is the word *Circle*. For rubber that has been washed or otherwise treated to eliminate dirt.
- 26,021. W. S. Nott Co., Minneapolis, Minn. The words *W. S. Nott Co., Minneapolis, Minn.*, within a circle, across which is the word *Gibraltar*. For rubber belting, hose, and packings.

[Note.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1906.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 20, 1907.]

- 2881 (1906). Leather pneumatic tires and tread bands. G. and A. Durio, and G. and G. Martina (trading as G. Martina & Figli), all of Turin, Italy.
- 2905 (1906). Hose union. J. Ambor, Hamburg, Germany.
- 2978 (1906). Bottle stopper with rubber washer. V. Gretsche, Stuttgart, Germany, and A. Henning, Leytonstone, England.
- 3001 (1906). Pneumatic tire, with tread of leather or wooden blocks. W. Clarke, London.
- 3079 (1906). Heel protector. H. Tannar, London.
- 3221 (1906). Expanding mandrel for jointing tire and other tubes. W. H. Welch and Harvey Frost & Co., London.
- 3257 (1906). Method and appliances for producing non-skidding grooves on tire covers. O. G. Moseley and D. Moseley & Sons, Manchester.
- 3285 (1906). Cover for handles of bottle cleaning brushes. J. L. Blair, Glasgow.
- 3314 (1906). Spongy filling for tires. R. Pfeumer and others, Salzburg, Austria.
- *3326 (1906). Detachable split retaining flange for pneumatic tires. G. Schuekers, Auburn, Indiana.
- 3332 (1906). Detachable tire retaining flange. R. Beresford, Newcastle-under-Lyme.
- *3416 (1906). Machine for washing or purifying india-rubber. [Described in THE INDIA RUBBER WORLD, August 1, 1906—page 376.] E. C. Hoe I, Boston, Massachusetts.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 5, 1907.]
- *3419 (1906). Heels and soles studded with rubber to prevent slipping. L. R. Leichterhand and H. W. Newton, Dorchester, Massachusetts.
- 3460 (1906). Noiseless resistant fabric for shoe soles, tire treads and covers, and the like. Fibers are so combined with rubber as to present their lengths diagonally to all the exposed surfaces. E. Seiger and C. Medner, Moscow, Russia.
- 3558 (1906). Pneumatic tire [with tire chamber between an air tube and a cover to prevent punctures]. H. E. Maslin, New Brighton, Ches. Co.
- 3600 (1906). Support for hose pipes. G. W. G. Unite, Moseley.
- 3634 (1906). Non-skidding device for heavy motor road vehicles. W. D. Vermin, London.
- 3720 (1906). Rim for pneumatic tire, with removable side rim. W. A. Cameron Walker, London.
- 3751 (1906). Solid rubber or wooden tire tread, in segments supported on pneumatic chambers. A. L. Lanson, Paris, France.
- 3851 (1906). Spray producer. [An apparatus for supplying oily, spirituous, or other fluids to the skin, scalp, or hair; comprises a rubber bulb in communication by a tube with a rigid reservoir forming the backing of the brush.] A. W. Brown and R. M. Berlyn, London.
- *3871 (1906). Dental plate swage. G. L. Freeborn, Belfast, New York.
- 3886 (1906). Elastic tire formed of transverse bent metal strips supporting a tread band. A. A. Jullain, Levallois-Perret, France.
- 3886A (1906). Elastic tire. *Same*.
- 3886B (1906). Treatment of india-rubber. [In order to prepare rubber for uniform vulcanization, it is freed from resins, etc., by treatment in the heated condition with glacial acetic acid or amyl alcohol, the latter being preferably mixed with water to keep down the temperature.] B. Gratz, Berlin, Germany.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 12, 1907.]
4062. Timing device. [In a machine for winding threads of pneumatic tires, to measure the amount of thread to be supplied.] J. Hubbard, Ilford, Essex.
- *4092 (1906). Armored tread band for pneumatic tires. A. Lee and A. M. Shemo, Maddock, North Dakota.
- 4108 (1906). Spring wheel. [An outer rim creeps round an inner rim, bearing, pieces of rubber being interposed.] R. C. Payson, London.
4218. Motorists' trousers, with toe pockets, of waterproof materials or fur. G. Good, London.
- 4337 (1906). Pneumatic tire with detachable tread. R. W. Cox, Harborne, Birmingham.
- 4450 (1906). Pneumatic tire with special tread surface. J. Richardson, Lincoln.
- 4485 (1906). Pneumatic tire with detachable rim flange. C. E. Jenkins, London, and G. E. Phillips, Ealing.
- 4564 (1906). Elastic tire. [Comprises tread and two wings extending diagonally into the run so that in action the wings act as cushioning struts.] E. J. Duff, Liverpool.
- 4575 (1906). Spring wheel. [A hub in two parts is provided with elastic packing.] L. A. Garchey, Paris, France.
- 4608 (1906). Hose nozzle. S. Jackson, Shrewsbury.
- 4637 (1906). Disk wheels for motors, provided with solid rubber tires. R. T. Smith, Warrington.
- 4651 (1906). Elastic tire. [The cover has a pocket or tube for the reception of a cushion of sponge or other resilient material, and a core of cork, in sections, strung upon a circumferential wire.] J. Riley, Southampton, and F. Fitz Payne, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 19, 1907.]

- 4692 (1906). Process for obtaining pure resin-free caoutchouc from raw rubber or rubber waste. B. Gratz, Berlin, Germany.
- 4701 (1907). Extraction of rubber by means of solvents and precipitants. *Same*.
- 4748 (1906). Pneumatic tire. J. B. Smith, Fleetwood.
- 4754 (1906). Spring wheel. [With rigid floating rim resting upon a solid or pneumatic cushion.] J. Partington, Saltaire.
- 4769 (1906). Boot soles of plastic gutta-percha composition pressed to the inside and fastened. L. Levy, Cologne, Germany.
- 4832 (1906). Pneumatic tire, with armored cover of leather segments. Della Rovere, Bagnola, Italy.
- 4867 (1906). Pneumatic tire with non-slipping armored tread. A. and G. A. Roberts, Gripwell Works, Birmingham.
- 4921 (1906). Pneumatic tire with puncture preventing device. C. A. Beaumont, Wakefield.
- 5122 (1906). Tire formed of rows of springs, with intermediate solid rubber tires; or the springs may be filled with rubber. G. A. Goodwin, London.
- 5140 (1906). Pneumatic tire held between side flanges, one or both detachable. J. J. Purdie, London.
- *5242 (1906). Spring wheel with solid rubber tire. J. Sinnott, Philadelphia, Pa.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 371,531 (Nov. 25, 1906). Société Parisienne du Caoutchouc Industriel. Pneumatic tire valve.
- 371,600 (Nov. 19). Thraver et Mac Namara. Method of pneumatic tire repairs.
- 371,626 (Nov. 20). E. Meccand. Pneumatic tire protector.
- 371,631 (Nov. 20). J. Natanson. Elastic tire.
- 371,684 (Nov. 20). Diaz di Suria et Jacob. Pneumatic tire cover.
- 371,701 (Nov. 21). Gaultier. Pneumatic tire.
- 371,710 (Nov. 21). Société le Caoutchouc. Tricot cover for tires.
- 371,784 (Nov. 24). E. Anselmi. Apparatus and process for vulcanizing tire repairs.
- 371,795 (Nov. 26). J. Pyat. Device for detaching pneumatic tires.
- 371,866 (Nov. 26). Société Michelin et Cie. Dual detachable pneumatic tires for motor cars.
- 371,817 (Nov. 28). Mitchell Punctureless Pneumatic Tire Co. Elastic tire.
- 371,947 (Nov. 24). A. Garnon. Pneumatic tire tube.
- 372,013 (Dec. 3). J. E. Galland. Fabric for pneumatic tires.
- 372,030 (Dec. 10). Champault et Tourliere. Tire with metallic armored tread.
- 372,044 (Dec. 10). Revere Rubber Co. Vulcanizing mold.
- 372,024 (Dec. 10). Hadfield et Johnston. Process and apparatus for vulcanizing articles of caoutchouc.
- 372,080 (Dec. 10). H. Turner. Protective tread for tires.
- 372,001 (Dec. 4). Tisseyre. Cork lined tire.
- 372,262 (Dec. 7). Continental Caoutchouc and Gutta-Percha Co. Protectors for pneumatic tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

New England Rubber Club's Outing.

FOR the fifth time in its history the New England Rubber Club, on July 17, held its Midsummer Outing at the Country Club, Brookline, Massachusetts, than which no better place on earth could be selected for such a function. Besides, the visiting club has always had a sense of compliment in that it, of all trade organizations, has been admitted to this oldest and most exclusive of American country clubs.

The story of the day's outing would naturally read as it has for years past. There were 125 or more present, and they came in automobiles, special cars, and by train. For sports there were golf, tennis, quoits, and billiards, and at 4:30 in the afternoon a hotly contested baseball game between the rubber manufacturers and the importers. Then in the evening there was the usual excellent dinner, with instrumental music, songs, and speeches. So far it will be seen that the description of the day's enjoyment would really cover any one of the four outings that have preceded this with the exception, perhaps, that the day, although hot, was without rain, and the consensus of opinion was that there was more genuine fun and more really good fellowship shown on this outing than at any of the previous ones.

At 7 o'clock promptly all were seated in the banquet hall and ample justice was done to the menu, which is reproduced on this page.

After coffee, President Stedman addressed the Club as follows:

PRESIDENT STEDMAN'S REMARKS.

GENTLEMEN AND FELLOW MEMBERS OF THE NEW ENGLAND RUBBER CLUB: While this gathering of our Club members is intended to be quite informal, I feel it incumbent upon me to say a few words. I wish first to express my earnest and heartfelt appreciation of the great compliment you have paid me by elect-

ing me to the high office of standard bearer of your Association for the present year. Such expression of confidence in, and I may perhaps be permitted to say, esteem, coming as it does from such a body of men, representing, as they do, one of the most important industries of our country, should not be held lightly by the man so highly honored.

It seems to me but a few months since when a handful of men imbued by that indomitable spirit, H. C. Pearson, known to every man of us by the familiar term of "Henry," met together and organized this Association, since grown to include representatives not alone from all the important rubber firms and companies of New England, but those from the width and breadth of the whole United States and Europe, as well as the trades subsidiary to the rubber business.

MENU.

Consomme	Little Neck Clams	Cream of Chicken
Olives		Radishes
	Fried Filet of Sole	
Cucumbers	Saddle of Lamb Mint Sauce	Tartar Sauce
Delmonico Potatoes	Roast Squab Jelly	New Peas
	Juhenne Potatoes	
	Escarole Salad	
	Country Club Cheese	
	Vanilla Ice Cream	
Strawberries	Coffee	Assorted Cake



GROUP OF MEMBERS OF THE NEW ENGLAND RUBBER CLUB, AT THE COUNTRY CLUB.

While many names have been added to our list of members, which is steadily growing, many names have been erased, not because they have lost interest in the Club and in its members, not because they have tired of joining in our festivities, but as the Scripture teaches, "they have gone before to prepare a place for us."

Since our last meeting of one year ago, several have passed to the great beyond. The last of our members to be taken is Mr. Edgar S. Hyatt, who died one week ago to-day, in Chicago—a genial, affable gentleman, greatly mourned by his associates. While we are gathered around this board indulging in the social intercourse and pleasure usually entered into at this season, I do not wish to turn your hour of jollification into one of mourning, but I will ask you to stop one moment, all stand, and drink a silent toast to our departed fellow members.

Now, gentlemen, I will not detain you longer, but before closing I wish to reiterate my thanks and appreciation of the honor you have done me and pledge, if pledge be necessary, my continued interest in, and fidelity to, the New England Rubber Club, and my friends who are its members.

We will now hear from the chairman of our Committee on Sports, who will present the prizes. The members of that committee have been untiring in their efforts to give us the best outing we have ever had, and I can truthfully say that they have succeeded admirably. I take pleasure in introducing the silver-tongued orator, Mr. Wilbur E. Farrington.

THE AFTER PROCEEDINGS.

Mr. Farrington then proceeded, with a few graceful remarks, to present the golf prizes, as follows: Best gross, Frederick C. Hood—prize, cut glass silver mounted jar; best net, David A. Cutler—prize, glass decanter in engraved silver deposit; second net, R. L. Chipman—prize, dozen gold balls; best net among the guests, F. S. Dane—prize, dozen golf balls.

President Stedman announced that the memories of the exceedingly pleasant outing at Paddocks Island last year, when the club was the guest of the army officers stationed at Fort Andrews, were well worth living over again, and that as Major H. C. Davis, Dr. Luke D. Peck and Lieutenant R. F. Winslow, of Fort Andrews, were present as guests, the club would be delighted to hear from them. Each of these gentlemen spoke briefly and interestingly, and they were followed by Mr. George Puchta, of Cincinnati; Mr. Joseph Davol, Mr. George E. Hall, the club's treasurer, Mr. Fred H. Jones, and Mr. H. C. Pearson.

Along the line of finances, the president said just here that there were two unsettled bills that he wanted to call the attention of the Club to, one being "Bill" Barker, and the other "Bill" Kelly, neither of whom was present, both of whom were missed, and a statement in full demanded their presence at all future outings.

The club paid a very hearty tribute during the exercises to President Stedman, when in response to the toast: "Our President—known to his friends as 'Steddy'—the most friendly, modest and tactful of them all," the members rose in a body and gave him three hearty cheers.

Taken all in all, the outing was by far the most enjoyable yet, and it is only fair that the Dinner, Sports and Entertainment committees, and particularly the chairmen, should receive ample credit for the success attained.

The baseball game resulted in a score of 9 to 7 in favor of the Importers. The players and the runs made were as follows:

IMPORTERS.		MANUFACTURERS.	
Chipman, p.	3	Styles, lb.	2
Paine, lb.	3	Hood, 2b.	0
Farrington, c.	1	Glidden, s.s.	1
Page, 2b.	0	Duncan, 3b.	1
Cutler, 3b.	0	Peck, p.	0
Garrison, s.s.	1	Tyer, c.	2
Wadbrook, lf.	0	Jones, lf.	0
Stedman, cf.	0	Duval, cf.	1
Dunbar, rf.	1	Dane, rf.	0

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for the month of April, 1907, and for the first ten months of five calendar years:

MONTHS.	Belting Packing and Hose.	Boots and Shoes.	All Other Rubber.	Total.
April	\$120,284	\$44,971	\$350,925	\$522,180
July-March	914,276	962,964	2,664,967	4,542,207
Total	\$1,034,560	\$1,007,935	\$3,015,892	\$5,064,387
Total 1905-06....	1,035,705	1,300,346	2,309,480	4,765,531
Total 1904-05....	704,256	1,100,093	2,064,066	3,958,415
Total, 1903-04....	734,083	971,625	2,036,682	3,742,390
Total, 1902-03....	680,147	983,044	1,881,773	3,544,964

BRAZILIAN IMPORTS OF RUBBER GOODS.

OFFICIAL statement of values (in milreis), during four calendar years. [These figures doubtless fail to include many articles embracing more or less rubber, but classified under other headings than manufactures of rubber.]

FROM—	1903.	1904.	1905.	1906.
Germany	873,250	797,664	657,826	581,451
United States....	150,226	156,639	127,842	123,903
France	280,371	275,602	271,886	240,161
Great Britain....	767,368	714,016	800,835	680,811
Italy	189,872	218,164	252,150	136,501
Other countries...	104,237	118,677	93,837	48,110
Total	2,374,823	2,280,762	2,205,382	1,810,937

Equivalent with exchange at 12 pence per the first two years and about 15½ pence in 1905 and 1906:

	1903.	1904.	1905.	1906.
U. S. gold....	\$577,853.81	\$554,066.41	\$693,140.00	\$560,161.50
Sterling	£118,741 3s	£114,938 2s	£142,430 8s	£116,955

The Brazilian figures, as might be expected, do not correspond with the statistics of other countries of rubber goods to Brazil, owing, if for no other reason, to differences in classification. The United States report rubber goods exports to Brazil during five fiscal years (ending June 30) in value as follows:

1901-02.....	\$17,922	1904-05.....	\$51,332
1902-03.....	27,797	1905-06.....	42,080
1903-04.....	29,419		

RUBBER SOLE PRESSING PAD.

UNDER a new invention for which patents have been issued to the United Shoe Manufacturing Co. (Boston), sole pressing pads of sole laying machines are formed of yielding elastic material having certain portions composed of harder material than the remainder. In the illustration of the pad shown herewith the fore

part (at the right) is of soft rubber and the heel part (at the left) of

harder rubber, the two parts preferably forming a continuous integral pad. The heel part is shaped to present a raised surface similar in shape to, but somewhat smaller than, the heel seat. The pad is covered with a sheet of sole leather which has been previously molded to shape. The holder for the pad is the same as that used in the well known Goodyear sole laying machine.

"LEAD EATERS."—As is generally known, the first practical use made of india-rubber in England was for erasing pencil marks, and an early encyclopedia mentions the substance as being popularly called "lead eater." A writer in the *London Chronicle* says that "lead eater" was still a name in use in some places a half century ago.

The Obituary Record.

EDGAR S. HYATT, widely known in the rubber trade, died suddenly on the evening of July 11, at the Auditorium Annex Hotel, in Chicago, which city he was visiting on business. Funeral services were held on July 15, at Plainfield, New Jersey, where Mr. Hyatt had resided for some years.

Mr. Hyatt was a native of New York city, and was in his fifty-eighth year. His father, the late Lewis Legrand Hyatt, sustained an important relation to the india-rubber industry for an unusually long period. In 1845, at the age of 25, he joined the Ford Rubber Co., then just beginning the manufacture of rubber footwear, at New Brunswick, New Jersey. The principals were John R. Ford and Christopher Meyer, with whom Mr. Hyatt remained associated for many years. He left them in 1855 to go to France with the founders of what has become the important rubber factory of the Hutchinsons, at Montargis.

years he has been connected with George A. Alden & Co. (Boston), visiting in the interest leading rubber manufacturers throughout the country, introducing their goods, including latterly guayule rubber.

Mr. Hyatt was universally liked, for his strict integrity and loyalty and for his sunny, amiable nature. He is survived by a widow and two daughters. Messrs. George A. Alden & Co. issue this notice:

"It is with deep regret that we announce the death of Mr. Edgar S. Hyatt. In making this sad announcement we desire to pay our last homage to a friend and faithful associate, and to express our appreciation of his untiring zeal and devotion to our interests."

TRIBUTE OF THE NEW ENGLAND RUBBER CLUB

The following resolutions were adopted by the New England Rubber Club on July 17, at Boston:

THE sad news of the sudden death of our friend and fellow member, Edgar S. Hyatt, came as a great shock to the members of the New England Rubber Club.

The son of one of the honored pioneers of the rubber trade, and himself connected with it for many years, both in this country and abroad, his loss will be most keenly felt; a man of wide acquaintance, sturdy, energetic, loyal, friendly, the whole trade will miss him.

Resolved, That this Club extend to his family its sincere and heartfelt sympathy.

Resolved, That these resolutions be spread upon the records of the Club and a copy entered and sent to his family.

GEORGE P. WHITMORE,

E. F. WADBROOK,

ALEXANDER M. PAUL,

Committee on Resolutions.

Mr. Hyatt was a member of the Plainfield County Club, and Grace Episcopal Church, of Plainfield.

GEORGE C. SMITH.

GEORGE C. SMITH, general superintendent of the works of the New York Rubber Co., died in Roosevelt Hospital, New York, on the evening of July 10, following an operation, at the age of 68 years. Mr. Smith became employed at the rubber works,

located at Matteawan, N. Y., about 40 years ago, since which time his connection with them has been unbroken save for a few months during the Civil War, when he was in the service of the Government. When the late Thomas S. Judson died, in the latter part of 1902, leaving vacant the position of general superintendent of the New York Rubber Co., Mr. Smith, then superintendent of one of the important departments, was promoted to succeed him. Mr. Smith's home was at Fishkill Landing, N. Y. He took an active part in local politics, as a Republican, and was a member of the Masonic fraternity. He is survived by a widow and a brother. The factory was closed on July 22, the day of the funeral, and the office in the city during the afternoon.

MRS. EMMA CONVERSE CHICK, of Boston, who died at her summer home at Swampscott, Mass., on July 10, was the wife of Isaac W. Chick, whom she married October 31, 1877. Mrs. Chick was a daughter of the late James W. Converse, long associated with the Boston Rubber Shoe Co., of which his brother, the late Elisha S. Converse, was the active manager for a half century. Mrs. Chick was a sister of Costello Coolidge Converse, now vice-president of the Boston Rubber Shoe Co. The interment was at Forest Hills Cemetery, Boston, on July 13. A son and a daughter survive.



EDGAR S. HYATT

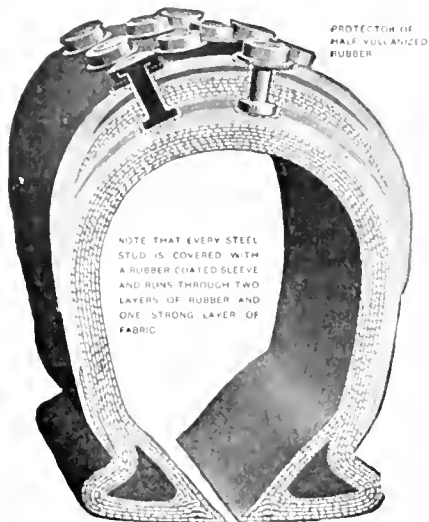


GEORGE C. SMITH

A little later he was again associated with Messrs. Ford and Meyer in the North British Rubber Co., Limited, remaining at Edinburgh for ten years. Mr. Hyatt in 1870 organized the Hyatt Rubber Co., later the New Jersey Rubber Co., at New Brunswick, where again he was interested with Ford and Meyer. The plant burning down, Mr. Hyatt again went to Europe, engaging finally in the celluloid industry in London, where he died August 1, 1903, in his eighty-fourth year. Lewis L. Hyatt was survived by a widow, after 59 years of married life. THE INDIA RUBBER WORLD happens to be publishing in this issue a sketch of Christopher Meyer, which contains further information on the history of the rubber industry in the period referred to.

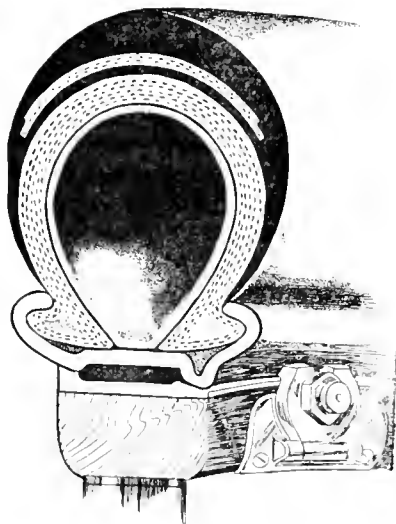
Edgar S. Hyatt, the subject of this sketch, was about nine years of age when he went to Europe with his parents, and lived first in Paris. He went thence to Edinburgh, and was for some time a student in the University of Edinburgh. He next turned his attention to the rubber industry, for which he received his first training in the works of the North British Rubber Co., Limited. Mr. Hyatt returned with his father to America, and filled the position of superintendent in the factory of the Hyatt Rubber Co. (later the New Jersey Rubber Co.), mentioned in the preceding paragraph, and afterward they went to Europe together. Edgar Hyatt returned to America in 1807, since which time he has made his home in Plainfield, N. J. For several

A Page of Tire Features.



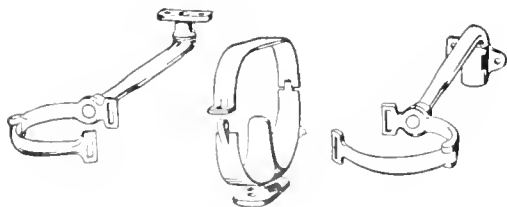
HERZ'S ANTI SKIDDING TIRE.

[The steel studs are carefully imbedded in fabric and rubber, as indicated in the illustration. Their use avoids the deleterious effect of leather upon rubber tire covers. These tires are made in Austria, the sole agents in the United States and Canada being Herz & Co., No. 203 Lafayette street, New York.]



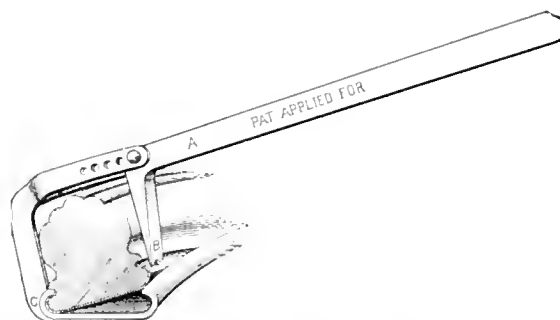
THE CRESCENT REMOVABLE RIM.

[This rim, called formerly the "Harburg," for holding a spare inflated tire for quick replacement in case of a puncture, fits close on the wheel, but does not bind where it ought not to. It is as immovable and unaffected by road shocks as a permanent rim. By its use a complete tire change can be made in three minutes. The Crescent Parts Co., Broadway at Fifty-sixth street, New York.]



THE MCKINLY REMOVABLE TIRE HOLDER.

[The attachment to the car fixtures is by a bayonet locking device which does not require the use of any bolts or nuts. The jaws can be extended for one or two tires, and the foot pieces are furnished in two forms, the plain used with a strap and the other of solid metal suitable for locking the tires. The Baldwin Chain Manufacturing Co., Worcester, Massachusetts.]



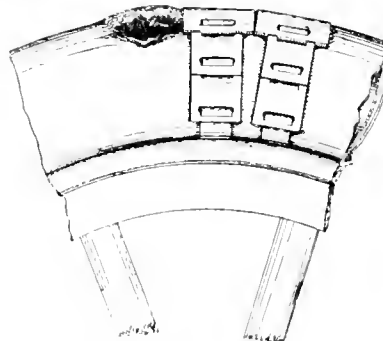
THE MOTZ TIRE APPLYING TOOL.

[By the use of this tool it is stated that a Motz solid or cushion tire may be applied or removed in about the same length of time as a pneumatic. The tire can be put on only in one way—the right way. The Motz Clincher Tire and Rubber Co., Akron, Ohio.]



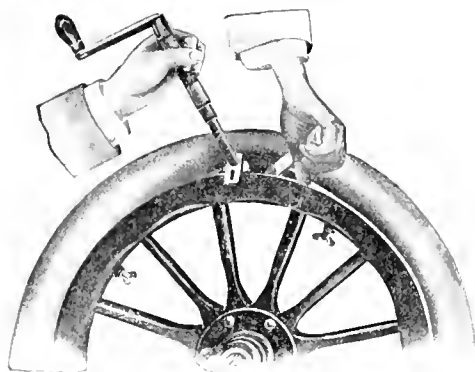
NEW MOTZ NON SKID CUSHION TIRE.

[The old shape tire of convex tread with concave sides has been changed in the New Motz to a concave tread with supports on the side, thus eliminating the skidding and rocking difficulties. The Motz Clincher Tire and Rubber Co., Akron, Ohio.]



KIMBALL STEEL TIRE ARMOR.

[Made of flat steel links hooked together, put on over the tire and hooked to the rim, or held on the same way as the tire. Each section is 2 inches wide at the tread plate. About 50 bands or sections are required for a 32 inch tire. The armor prevents tires from bursting. Kimball Tire Case Co., Council Bluffs, Iowa.]



[Inserting the Tool.]

THE "EVER READY" TIRE TOOL.

[This tool "rolls" round the circumference of the tire through the turning of the crank. The corrosion of parts often prevents tires from being detachable, but this offers no trouble when the "Ever Ready" tool is used. When not in use this tool can be folded up in small compass. Auto Improvement Co., No. 316 Hudson street, New York.]

POINTS ON RUBBER TIRES.

THE BEST WHEEL FOR THE TIRE.

AN automobile supply firm at Jamaica, Long Island, report to THE INDIA RUBBER WORLD having run two Diamond tires for 30,000 miles each, without repairs other than the recovering of one of the casings. They write further: "All of these records [including one of 9,000 and one of 11,000 miles] were made on White steamers, and all but one on the right front wheel, the other on the left front which confirms—at least to our satisfaction our contention that the right front wheel is the easiest on the tire, owing to the track which it follows always being the most carefully observed by the operator."

RUBBER TIRES IN BRAZIL.

THE American consul general at Rio de Janeiro, in a recent report on the market for rubber tires, wrote: "The rubber tires now used come principally from France, though some are manufactured in Brazil." In response to a request from THE INDIA RUBBER WORLD for further details, Mr. Anderson says:

"At the time the report you refer to was written there was an attempt to make solid rubber tires on a small scale here, and I am told that the matter was also considered and perhaps tried in Sao Paulo. With the facilities had here, and with the comparatively small demand for tires in Brazil, the attempts were little more than experiments and have failed."

Mr. Anderson thinks that a well equipped establishment under proper management—perhaps as a branch of a foreign factory—might be operated successfully in Brazil, but its problem would be first to stimulate the use of rubber tires. Solid rubber tires for a victoria cost at Rio about \$1.40, American gold, and pneumatics about \$1.90, including duties and other import costs of substantially 50 per cent.

CHEAPER TIRES FOR ASSOCIATION MEMBERS.

MEMBERS of the Association Générale Automobile of France, according to the official *Revue* of the association, are entitled to buy many kinds of accessories at a discount from manufacturers' lists, including pneumatic tires of the following makes, at the reductions stated below:

Bergougnan ... 20%	Dunlop ... 8%	Hutchinson ... 15%
Bouland ... 10%	Dynamic ... 15%	Jenatzy ... 8%
Calmon ... 6%	Edeline ... 10%	Michelin ... 5%
Clincher ... 14%	Electric ... 20%	Persan ... 10%
Colonial Rub. ... 20%	Engelbert ... 10%	Torrillon ... 8%
Continental ... 8%	Falconnet ... 15%	Veritas ... 10%

A PNEUMATIC TIRE SHIELD.

A RECENT invention relating to vehicle wheels involves the combination with a pneumatic tire of a rigid metallic shield which is extended inwardly beyond the middle plane of the pneumatic tire and bears snugly against its sides. The shield comprises two circumferentially separable sections and means for holding them together. The purpose of the shield is to provide spaces between the side bearings and the tread portion into which the pneumatic tire may blow when distorted under pressure. Patents have been granted for this invention to John Thomson, of New York, assignor to the Trident Tire Co.

BRIEF MENTION.

THE Fisk Rubber Co., in addition to their regularly mechanically fastened type of tire, are building a clincher which is put out for renewal purposes only. It is of their heavy car type of construction and designed to be as nearly puncture proof as a pneumatic can be made.

S. P. Applewhite has applied to the government of Mexico for a concession to establish in that republic a factory for making pneumatic tires and other articles of rubber.

How to locate the spot where a puncture occurs is something that a great many enthusiasts and experts spend time

on, and among late suggestions is one whereby smoke is forced into the tire, coming out later through the puncture; another is to blow a small quantity of fine coloring matter into the tire, dampening the outer surface, and when the air exudes through the hole the coloring matter comes with it and makes a small stain about at the punctured part. Those who have a fine eye for color can select shades that synchronize with their neckties or with the body of the car, and not only locate the puncture, but gain some beautiful effects as well.

LONDON MOTOR 'BUSES.

THE London motor bus companies, organized with such a flourish a year or so ago, and which were looked to as promising so great a demand for rubber tires, have not fully realized the promises made in their prospectuses. Recently four of the larger companies have been merged, under the name Vanguard Motor Bus Co., Limited, the four old companies going into liquidation. Their shareholders were informed that the limited success of the enterprises had been due (1) to inconvenient restrictions placed upon the motor bus traffic by the authorities, and (2) to the great number of accidents to persons and property, and the heavy damages which persons with grievances had been able to obtain through the courts. It is believed, however, that more favorable regulations will be obtained, that the number of accidents will be lessened as the public become accustomed to the new vehicles, and that with the decline of popular prejudice the courts will be more lenient in assessing damages. The buses in use are carrying millions of passengers, and the companies are learning economies in operation without rendering the service less efficient.

The Vanguard Motor Bus Co., Limited, at the end of June had 267 buses licensed for service, and 160 new buses, or undergoing alterations, for which licenses would be requested. The share and debenture capital authorized is £1,500,000; amount issued to July 6, £990,000. The total number of motor buses in London, according to a recent census taken by *Motor Traction*, was 977, of which 343 were at that time credited to the Vanguard Company.

* * *

THE Berlin General Omnibus Co. have been the subject of unfavorable reports, which have led to a heavy decline in the market price of their shares. A dividend of 15 per cent. was distributed in 1905, and only 5 per cent. last year. The *London Financial News* is advised that it is doubtful if there will be any dividend this year.

MURAC.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our attention has been called to a very interesting article headed "Murac," appearing in the current issue of your journal [June 1—page 288], but it is hardly consistent with the technical facts to state that we are only using balata in its manufacture. We have the pleasure of informing you that we can successfully convert balata into murac, and as you are no doubt aware, we are always willing to grant any one a full investigation of our process, as our books are opened to all interested parties. We trust you will put us right in this matter, as we want murac to be a hall mark for high standards of mixtures. We enclose a sample of sheeting, made from very cheap Lagos rubber 85 per cent., pure murac (33) 15 per cent., and vulcanized with 10 per cent. sulphur. We are rather proud of the result, as without the addition of murac in this mixture the rubber would have been very lazy and almost unworkable.

THE BRITISH MURAC SYNDICATE, LIMITED,

MORLAND M. DESSEAU, Manager.

London, June 15, 1907.

RUBBER INTERESTS IN EUROPE.

GOOD PROFITS IN LINOLEUM.

AT the thirteenth annual meeting of the Greenwich Inland Linoleum Co., Limited (London, May 29), working Frederick Walton's new patents, the year's accounts showed a net profit of £70,125 12s. 11d. [= \$370,465.45]. The results were the best they had ever had, despite the advances during the year in linseed oil and cork. Dividends—5½ per cent. on the preference capital (£100,000) and 15 per cent. on the ordinary (£240,000)—absorbed £41,500; debenture interest, £5,400; added to reserves, £20,000; carried forward, £7,725. The meeting was presided over by the company's chairman, Sir William Frebair, J. P., lord mayor of London.

SILVERTOWN EMPLOYEES' PICNIC.

THE employes of The India-Rubber, Gutta-Percha and Telegraph Works Co., Limited (Silvertown, London), to the number of 850, enjoyed their eleventh annual summer excursion on June 29, going this year by special train to Clacton-on-Sea. Arrangements had been made for the admission of the visitors to many of the amusement resorts at Clacton free, and to the others at half price. Boating and bathing were indulged in by many of the party and the "Works" played the Clacton Cricket Club, the visitors losing. Altogether the excursionists spent 11 hours in Clacton, forming what a local paper calls "a strenuous day's sightseeing," and by all accounts it was thoroughly enjoyed.

GREAT BRITAIN.

AT the half yearly general meeting of The India-Rubber, Gutta-Percha and Telegraph Works Co., Limited (London, June 18), the chairman reported an increase of sales, but it was not certain that the year would show proportionately larger profits. The company had made and were laying a new cable from New York to Colon, via Havana. He referred to the company's successful use of the new tire making machine [described in THE INDIA RUBBER WORLD, June 1—283]. An interim dividend of 2½ per cent. on the ordinary shares was declared.

The Sirdar Rubber Co., Limited (London), have received a large order for their pneumatic tires, both grooved, non-slipping and plain, for the Sultan of Johore, in the Malay peninsula, who is the owner of 15 motor cars, and whose tire expense bills have been reported to be very heavy.

The New Gutta-Percha Co., Limited, of London, are putting in plant for the manufacture of cables insulated with "Gentsch gutta," for which they hold the British patent rights. [See THE INDIA RUBBER WORLD, January 1, 1905—page 131.] A. E. Garbuth, hitherto with the cable department of I. Frankenburg & Sons, Limited (Salford), has resigned to become general manager of The New Gutta-Percha Co.

The Unity Rubber Co., Limited, operating the plant at Woodley, Cheshire, known formerly as the Hyde Rubber Works, have gone extensively into the manufacture of solid rubber tires. The controlling interest is held by J. Mandleberg & Co., Limited, of Pendleton, Manchester.

Colonel Richard K. Birley, managing director of Charles Macintosh & Co., Limited (Manchester), is on the board of the Beaufort Borneo Rubber Co., Limited, registered in London with £100,000 [= \$486,950] capital, to plant rubber in British North Borneo.

The Cape Asbestos Co., Limited (London), manufacturers of asbestos insulating materials, report net profits for the past year of £0,270, as against £1,828 for the year preceding, and this reduces the outstanding credit balance of £17,571 to £11,301.

Claudius Ash, Sons & Co. (1905), Limited, the extensive manufacturers of dental goods [see THE INDIA RUBBER WORLD, July 1, 1907—page 321], will have a predominating interest in the new Platinum Corporation, Limited, capitalized at £300,000, formed to acquire valuable platinum and gold concessions in Russia, comprising 15,000 acres.

The profit of the Craigpark Electric Cable Co., Limited (Glasgow), for the past business year amount to £6,443, as compared with £4,223, the three previous years' average. The usual dividend (6 per cent.) on the preferred shares was paid and 6 per cent. on the ordinary shares. The last previous ordinary dividend, 5 per cent., was paid in 1903.

GERMANY.

ASBEST- u. Gummiwerke Alfred Calmon, A.-G., at Hamburg, report for the last business year gross profits of 996,095 marks, as against 739,428 marks for the year before. The net profit was 421,579 marks, of which 360,000 marks go to pay 6 per cent. on the capital of 6,000,000 marks [= \$1,428,000].

The German rubber manufacturers have scored a victory in respect of the import duties on benzine. They have had to pay a duty of 3 shillings per hundred weight, while benzine imported from Austria, Hungary, or Roumania, for motor purposes, was charged 1 shilling for only light benzine, and the heavy sorts, which the rubber goods maker finds the most useful, could be imported duty free for motoring purposes. The result of agitation has been not only that the limit of specific gravity not to be exceeded for duty free benzine has been raised from 0.77 to 0.805, but the duty for such benzines is removed for the rubber industry as well as for motor folk.

Exports of india-rubber goods from Leipzig to the United States during the calendar year 1906 amounted in value to \$28,472, and in 1905 to \$16,447, according to the United States consul at Leipzig.

The Mannheimer Gummi-, Guttapercha- und Asbest-Fabrik A.-G. have bought land for 36,000 marks at Kirchbein, near Heidelberg, with a view possibly to the removal of their works to that place.

Otto Oloff, lately with the Mannheimer Gummi-, Guttapercha- und Asbest-Fabrik A.-G., has been made general director of the Frankfurter Gummiwaren-Fabrik Carl Stöckicht A.-G., at Frankfurt o/M.

AUSTRIA-HUNGARY.

THE Ungarische Gummiwaren-Fabriks Aktiengesellschaft, at Budapest, capitalized at 1,600,000 kroner [= \$324,800], paid a dividend of 11 per cent., against 10 per cent. for the preceding year. The capital is to be increased to 2,500,000 kroner [= \$507,500].

At the eighteenth annual meeting of shareholders of the Oesterreichisch-Amerikanische Gummifabriks Aktiengesellschaft, at Vienna, under the presidency of Hugo Markus, it was voted to increase the capital to 4,000,000 kroner [= \$812,000] by the issue, at par, of 2,500 shares of 400 kroner each.

BELGIUM.

CAPTAIN VITTA, the director in Africa of the Cie. Industrielle et de Transports au Stanley Pool "Citas," operating in rubber on the Congo, has been visiting the headquarters of the company at Brussels, where recently there was conferred upon him the decoration of chevalier of the royal Order of the Lion. At the same time the direction of the company "Citas" tendered a banquet to Captain Vitta, at which he was complimented upon his work in Africa and presented with a jeweled memento of the occasion. Captain Vitta has spent 14 years in the Congo region, having served two terms in the service of the Free State and six years in that of "Citas." The director of this company in Belgium is Mons. Edmond Hinck, who also is a director in the American Congo Co.

Société Belge pour la Fabrication des Câbles et fils Electriques, S. A., of Brussels, with works at Buysinghen, have increased their capital to 1,000,000 francs [= \$193,000].

SWEDEN.

IMPORTS of crude rubber in 1905 amount to 828,921 kilograms [= 1,823,626 pounds]. Value of imports of rubber goods, 3,286,516 kroner [= \$88,478.63]; value of rubber goods exported, mostly footwear, 5,160,543 kroner [= \$138,302.55].

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE Firestone Tire and Rubber Co. are erecting an additional building, four stories, 90 x 44 feet. Their tire manufacture has increased to such proportions that their present buildings are no longer adequate.

Twenty-three of the Firestone company's traveling salesmen met here on July 9, for their annual convention. The officials of the company entertained their men handsomely. Late in the afternoon the entire party journeyed to Cleveland, where they witnessed the departure of the Glidden automobile tour entries the next morning. During their gathering it was ascertained that the company's sales have been greater during the past year than in their whole history before.

As the Glidden tourists passed the home of Mr. H. S. Firestone, president of the Firestone Tire and Rubber Co., near Columbiana, they were treated to baskets of lunch, served from a large tent erected on the lawn. The homestead was the birthplace of Mr. Firestone and his brother, the company's sales manager.

Frank H. Burmester has severed his connection with the Burmester Rubber Co., of Boston, to accept the position of New England traveling representative for the Firestone company.

The four story office building which is being erected at the corner of South Main and Rubber streets for The B. F. Goodrich Co. is nearing completion. The structure will be one of the best finished office buildings in Akron, and will probably cost \$100,000. The five story factory building on the opposite corner is also well under way. This structure will be used for the manufacture of molded rubber goods. With these new buildings the Goodrich company will have a floor area of 17 acres.

Progress upon the erection of the plant of the newly incorporated Star Rubber Co. has been rapid, and it is expected that the main building, which will be three stories in height and 100 x 50 feet, will be completed within a few weeks. Officials of the company state that they will be ready to begin operations by the middle of September.

The Diamond Rubber Co. are planning to pay more attention to their foreign trade. Mr. Charles T. Wilson has sailed for London for the purpose of pushing the Diamond's sales in Europe. After studying the English field, Mr. Wilson intends to give his attention to France and Germany. He is an experienced tire man, having been connected with the Diamond company for years, during part of which time he has been abroad.

The Akron Pneumatic Tire and Protector Co., formed to manufacture the new puncture proof automobile tire invented by Lemon Greenwald, has been incorporated, and is already engaged in manufacturing the tire in a building on West Buchtel avenue. Many orders have been secured, and the company has bright prospects. The incorporators are W. J. Neil, J. S. McClurg, Frank R. Talbot, W. R. Talbot, and Lemon Greenwald. Tire protectors and ordinary pneumatic tires are also being put out by the new concern. [See THE INDIA RUBBER WORLD, July 1, 1907—page 313.]

The Buckeye Rubber Co. will erect a large building, 224 x 40 feet, as an addition to their present plant.

One of the most enjoyable events of the year in local rubber circles, was the picnic of the Diamond Rubber Co.'s employes, held at Silver Lake on Saturday, July 13. The gate records showed that 8,000 people were in attendance, and nearly 5,000 of these had their expenses, including transportation to and from the lake, admission to the dancing pavilion, boating, and so on, borne by the company.

Mr. Charles C. Goodrich, whose intended removal to the East has been mentioned, will in consequence resign the position of junior warden of the Church of Our Saviour at Akron. At a

recent meeting of the church vestry Mr. Goodrich was presented with a beautiful loving cup.

Portions of several streets in Akron are to be vacated, by action of the city council, in compliance with the requests of manufacturing concerns desirous of enlarging their premises. Rubber street will be vacated on the request of the B. F. Goodrich Co., who own all the adjacent property, and Third avenue will be vacated at the instance of the Buckeye Rubber Co., who agree to open another street in that locality.

THE RUBBER TRADE AT SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

DESPITE the more or less unsettled condition of San Francisco affairs, in many directions, the outlook for the rubber supply houses appears promising, and all are doing a good business.

Mr. E. H. Parish, of the Gorham Rubber Co., will start for the Orient about August 8. They report business very good, especially in the automobile line, and better this year than for some time past. Mr. W. J. Gorham is down in Los Angeles in charge of the branch store, while Mr. F. Helm is gone East.

The Phoenix Rubber Co., at Nos. 115-117 Real street, report business exceedingly good, and have also done well in the automobile trade, and up to the present time have all they can do.

Mr. H. W. Keffer, formerly of the Gorham Rubber Co., is now city salesman for the Sterling Rubber Co., handling the druggists' sundries line exclusively.

Mr. Squires, formerly of Barton, Squires & Byrne, is now in the rubber business for himself, having secured a number of eastern lines to represent on the Pacific Coast. He has recently made a trip along the southern coast of California and succeeded in landing some good orders.

The Goodyear Rubber Co. continue to report a steadily increasing business. Mr. R. H. Pease, the president, is preparing to leave for Portland to look out for the company's branch store, as well as have a pleasant change for his family during the summer.

The George P. Moore Co., at No. 721 Golden Gate avenue, are doing a good business in automobile supplies and are constantly receiving orders from the country, especially from places ordinarily considered out of the way, such as Idaho and Montana, where one would hardly expect to find many automobiles, and the greatly increased demand for supplies shows the great increase in that industry and the consequent increase in the rubber business.

The Fisk Rubber Co., at No. 1030 Golden Gate avenue, report an active business, and are pleased with the bright outlook for the summer season. The car which won the fifty mile race at Delmonte was equipped with Fisk tires.

The California Antioak Tire and Motor Co. has been incorporated at Los Angeles.

The San Juan Rubber Co., with headquarters at Los Angeles, have been incorporated under the laws of California, to plant rubber in Costa Rica.

Representatives of the Builders' Exchange, Real Estate Board, and Building Trades Council have adopted a resolution favoring a wage schedule in the building trades, to be adjusted by a joint committee, signed for three years, and published broadcast. There are some indications that such a course may be carried out. The signing of such an agreement as that indicated by the resolution, which would assure three years of certainty to investors and contractors and reasonable wages, would give a great impulse to construction. At present there is no such assurance. If an agreement is reached the element of uncertainty will be obliterated, money will be easier, owners will be encouraged to improve their property, work will be plentiful, and general prosperity will ensue.

News of the American Rubber Trade.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE directors of the United States Rubber Co., on June 27, declared the regular quarterly dividend of 2 per cent. on the First preferred stock and the regular quarterly dividend of 13.4 per cent. on the Second preferred stock from the net earnings for the fiscal year beginning April 1, 1907, payable on July 31 to shareholders of record July 15. The net earnings for the year (June partially estimated) are stated to have been approximately \$1,040,667.42, which includes dividends amounting to \$138,900.25 received upon stock of the Rubber Goods Manufacturing Co. Net earnings at the same time last year were \$972,000, including \$116,277.53 in Rubber Goods dividends.

BOSTON WOVEN HOSE AND RUBBER CO.—NEW BUILDINGS.

THE Boston Woven Hose and Rubber Co. have been building up their plant at Cambridge for about 25 years, until every square foot of available space has been covered. Several months ago they purchased the property of the Chelmsford Foundry Co., about 150,000 square feet, adjoining their original land on the north, since which time they have purchased additional land and are proceeding to erect several new buildings. Ground has been broken for a four-story building of reinforced concrete, to be used for the manufacture of various kinds of hose, the equipment for which will be entirely new. During this month work will begin on a four-story building nearly 600 feet long for the receiving and shipping departments and storage of raw and finished materials. To enable the company to produce sufficient quantities of "Boston" and "Eclipse" spray nozzles and other hose fittings, a new brass foundry, said to be one of the largest in the country, is now under construction.

Additions will also be made at the company's reclaiming plant at Plymouth. Plans are drawn for a three story building there, and additional engines and boilers will be installed. A portrait of the company's new manager appears on this page.

BACK TO THE OLD QUARTERS.

WILLIAM H. SCHEEL, who has returned to his former location, No. 158 Maiden lane, New York—the premises occupied before a recent fire—announces that his facilities now will permit of the handling of a much larger line of goods for the rubber trade, such as substitutes, antimonies, colors and fillers. The business of William H. Scheel is now in the nineteenth year.

THEBAUD BROTHERS EMBARRASSED.

THEBAUD BROTHERS, commission merchants at No. 87 Broad street, who claim the honor of being the oldest mercantile house in New York, made an assignment for the benefit of creditors on July 17 to Ernest G. Pfeister. This action was prompted by the reported failure of a correspondent in Yucatan. The liabilities are roughly estimated at \$750,000 and the assets at \$1,000,000. The firm hope to be able soon to resume. They were importers of Mexican and Central American products, including india-rubber, and exporters of American manufactures.

RUBBER FOOTWEAR TRADE IN ST. LOUIS.

THE Hamilton, Brown Shoe Co. (St. Louis) continue to break all records in the matter of their shipments. From December 12, 1906, to June 1, 1907, the total volume amounted to \$6,103,630.05—an increase of \$1,002,207.21 over the corresponding dates one year previous. Mr. W. D. Collins, manager of their rubber footwear department, advises THE INDIA RUBBER WORLD that their rubber business, as compared with last year, shows an increase very near to 25 per cent. The firm are exclusive Western agents for the "Lycoming" and "Keystone" brands, of which they carry such full stocks that they are able to fill every order complete on the same day it is received. This they did throughout 1906 and the same rule has been followed thus far in the current year. The Hamilton, Brown Shoe Co. are having a particularly good trade in some lines of rubber made specially to their order for the field which they cover.



GEORGE E. HALL.

[General Manager Boston Woven Hose and Rubber Co. See THE INDIA RUBBER WORLD, July 1, 1907—page 325.]

MOTZ CLINCHER TIRE AND RUBBER.

THE annual meeting of Motz Clincher Tire and Rubber Co. (Akron, Ohio) was held on July 5. The directors chosen are Charles Motz, Gus. Burkhardt, Nicholas Seil, Dr. H. J. Saunders, William Wolf, N. C. Stone and Paul E. Bertsch. C. Motz was re-elected president, G. Burkhardt, vice-president and N. Seil secretary and treasurer. The company have added to their products a new non-skidding cushion tire, and their prospects for the year are most encouraging, not only at home but in connection with the foreign trade. Motz tires have met a good sale in Europe.

NEW LOCATION FOR CAPEN, OF ST. LOUIS

CAPEN Belting and Rubber Co. (St. Louis) have removed to new and much larger quarters, at the southwest corner of Main and Chestnut streets. They have one of the best equipped stores in the lines of leather belting, mechanical rubber goods and mill supplies in their section. The company were incorporated in 1900 and carry the St. Louis accounts of some leading rubber manufacturing concerns. Charles P. Capen is manager of the business.

FEDERAL RUBBER CO.

THE Federal Rubber Co. (Cudahy, Wisconsin) have filed notice of an increase of their capital stock from \$100,000 to \$620,000 for the purpose of enlarging their plant. The officers of the company are: John H. Frank, president; George P. Mayer, vice-president; W. H. Upmeyer, treasurer; William Brumder, secretary. William A. Koneman, the inventor of a recently patented rubber reclaiming process to be used by the company, has been elected manager.

ANDERSON PNEUMATIC CUSHION HEEL.

Boston Woven Hose and Rubber Co. (Boston) have entered into an arrangement with Mr. W. G. Anderson, the patentee of the Anderson Improved Pneumatic Cushion Rubber Heel [illustrated and described in THE INDIA RUBBER WORLD, July 1, 1907—page 318], whereby they will undertake the sole manufacture and sale of this popular article.

NEW CONSTRUCTION.

The Bridgeport Elastic Fabric Co., Inc. (Bridgeport, Connecticut) have added to their plant a brick one story building, 100 X 55 feet, to be used for weaving. They are installing machinery which will add 25 per cent. to their production, and the additional room will enable them eventually to increase 50 per cent. The company were incorporated in June, 1902, and make narrow elastic goods, mostly for hose supporters and garters.

The West Point Manufacturing Co., of West Point, Georgia, are erecting a new mill between West Point and Langdale, Ga., in addition to their already extensive mills, which will be the largest plant in the world devoted to the manufacture of cotton duck.

Pará Rubber Works, a new company, with temporary offices at No. 97 Warren street, New York, plan the erection of a factory in the western part of the State for rubber insulated copper wire. Francis Granger, well known in the electrical field, is prominent in the company.

LEO F. NADEAU, CONSUL.

THE president of Guatemala has created a consulate for that republic at Providence, Rhode Island, and appointed as consul Mr. Leo F. Nadeau. Mr. Nadeau has spent considerable time in Guatemala, where he is interested in planting and grazing, being secretary and treasurer of La Nueva Providencia Rubber Co., a corporation which he was instrumental in forming some years ago. Mr. Nadeau is engaged also in the insurance business at Providence, and in the importation of Central American products. He is a Brown University man, a member of the Providence Board of Trade and active in Masonic circles. He is, altogether, an active business man. A portrait of him appears on this page.

OUTINGS OF RUBBER PEOPLE.

THE annual picnic of employees of The Diamond Rubber Co. (Akron, Ohio), under the auspices of the Diamond Rubber Workers' Relief Association and the Diamond Rubber Co.'s Band Association, held at Silver Lake, near Akron, on July 13, was largely attended and thoroughly enjoyed by all present. There were baseball and other sports and dancing.

The annual baseball game between nines from the married and the unmarried members of the staff of the United States Rubber Co.'s New York offices, scheduled this year for June 29 at New Dorp, Staten Island, had to be postponed on account of the rain and a new date for the game has not been announced.

The salesmen of the Firestone Tire and Rubber Co. held their annual convention at Akron during the week beginning July 8. On the evening of the day named they attended a reception and dinner at the Portage Country Club, when, being 23 in number, they organized themselves into a "Skidoo Club."

TIRE COMPANY NOTES.

THE Auto Tire and Supply Co., No. 134 Washington street, Providence, Rhode Island, have been organized for the sale of motor supplies generally. They are now carrying in stock the Continental tires and several leading American makes.

The Healy Leather Tire Co., of No. 90 Gold street and No. 1906 Broadway, New York, whose leather tires have been described in these pages, are selling a line of specially made inner tubes of red rubber having a peculiar composition which gives them extreme toughness.

The Fisk Rubber Co. have appointed as manager of their branch at Cleveland, Ohio, Mr. J. B. Kavanaugh, who formerly was connected with the Hartford Rubber Works Co. Mr. Kavanaugh has been succeeded as the Hartford company's manager at Cleveland by Mr. P. H. Goodall.

W. D. Newerl, Pacific coast representative of the Good-year Tire and Rubber Co. (Akron, Ohio), with headquarters at Los Angeles, California, has established a branch house in San Francisco, on Golden Gate avenue, in charge of A. C. Leonard.

Trenton Rubber Manufacturing Co. (Trenton, New Jersey) issue an attractive booklet relating to their "Trenton" automobile tire tubes, including a price list.

It is announced that the Ajax-Grieb Rubber Co., of New York and Trenton, have practically decided to change the location of their factory, with a view to securing premises that will permit of greater expansion. Propositions from two or three towns regarding the location of the factory have recently been under consideration.

The Dow Tire Co. (No. 104 West Forty-second street, New York) have secured premises at Bush terminal, in Brooklyn, and begun the manufacture of inner tubes.

NEW INCORPORATIONS.

NEW JERSEY Antioak Co., June 24, 1907, under the laws of New Jersey; capital authorized, \$25,000. Incorporators: Arthur W. Snow, Albert R. Palmer and Charles C. Kern. Registered offices, Nos. 9-15 Clinton street, Newark, N. J.

New York Antioak Tire Co., June 18, 1907, under New York laws; capital, \$25,000. Incorporators: H. W. Morehouse, Brooklyn; A. R. Palmer and C. C. Kern, New York city.

Interstate Rubber Co., Inc., May 15, 1907, under the laws of Washington state; to deal in mechanical rubber goods, leather belting, etc., and to make valves, gaskets and the like; capital, \$20,000. Location: No. 322 First avenue, Spokane, Wash. Richard Church, president and manager; George W. Orchard, secretary and treasurer; S. J. Wigle, vice-president. Will C. Church, of Boston, is expected to reach Spokane about August 15 to take an active interest.

Dunn-Loeke Vacuum Cleaning Co., June 18, 1907, under New York laws; capital, \$1,000,000. Directors: Chase Mellen, Garden City, L. I.; Perry H. Blodgett and H. M. Ward, New York city.

Bay State Compressed Air Vacuum Cleaning Co., July 15, 1907, under Massachusetts laws; capital, \$100,000. E. F. Coburn, Lawrence, Mass., president; G. Peck, Boston, treasurer.

Pocket Ice Apron Co., July 5, 1907, under Rhode Island laws, to make and sell rubber ice aprons; capital, \$5,000. Incorporators: Isaac Crocker, Albert H. Bloss and George I. Crocker. Office: Providence, R. I.

Passaic Cotton Mills, February 5, 1907, under the laws of New Jersey; to make automobile tire fabrics; capital author-



LEO F. NADEAU.

[Rubber Planter and Guatemalan Consul at Providence, Rhode Island.]

ized, \$100,000. Incorporators: Robert D. Benson, Henry Binns and John D. Suffern, all of Passaic, N. J.

Howard Ramie Fiber Manufacturing Co., June 20, 1907, under the laws of New York; to manufacture vegetable fibers into fabrics; capital, \$1,000,000. Incorporators: H. H. Howard, H. Miller-Howard and A. Hillebrandt, all of New York city.

The M. W. Duntun Co. (Providence, R. I.) have been incorporated under the Rhode Island laws, with \$50,000 capital, to succeed to the business of M. W. Duntun & Co., manufacturers of uncoated cotton armature tapes and other insulating material.

The Ferguson Waterproof Co. filed articles of incorporation under the laws of Missouri, April 30, 1907, with \$200,000 capital, in equal amounts of preferred and common stock. The object is stated to be the manufacture of waterproof garments and other waterproof goods, at Paducah, Kentucky. The principal shareholders are Forrest Ferguson, a St. Louis dry goods merchant (president of the company), and David M. Flournoy, a broker, of Paducah. Mr. Ferguson informs *THE INDIA RUBBER WORLD* that the company will not use rubber.

The Priest Tire Co., June 8, 1907, under the Wisconsin laws; capital authorized, \$100,000. Incorporators: George Beyer, Frank Fisher, Jr., Augustus F. Priest and W. P. Cook, all of Oconto, Wis. The object is to exploit a tire patented by Mr. Priest, who becomes secretary of the company. The present address of the company is No. 315 Everett building, Akron, Ohio, in which city the tire probably will be manufactured.

Hazen-Brown Co., Inc., May 29, 1907, under the Massachusetts laws; to make rubber and other cements; capital, \$30,000. George D. Hazen, president; Louis Brown, vice-president; Max Brown, treasurer. Office: Brockton, Mass. The company report: "Our business is manufacturing and marketing to the shoe industry our product called 'Hazenite,' which is intended to be used as a folding cement for oily leather."

MOTOR CABS FOR NEW YORK.

THE New York Motor Cab Co., Limited, has been formed in London, with £303,000 [= \$1,474,549.50] capital, to supply in New York a service of 300 Darracq motor cars, of the 14-16 H.P. four cylinder landaulette type, for four or five passengers, and fitted with taximeters. The rate of fares mentioned is 30 cents for the first half mile and 10 cents for each additional quarter mile. The cost to the company of the cabs, Paris delivery, is to be £352 [= \$1,713] each. The operating cost estimates include \$2 per cab per day for tires. The average receipts per day are figured at \$24 per cab, the average gross profit \$19.20, and the total yearly net profit \$953,300. The cabs are to be practically the same as those now used in London and Paris. W. K. Vanderbilt, Jr., is reported in a London paper to be financially interested.

GENERAL ELECTRIC CO.'S REPORT.

THE fifteenth annual report of the General Electric Co. (Schenectady, New York), for the year ending January 31, 1907, shows: Goods billed to customers during the year, \$60,071,883; orders received, \$60,483,659; profits (after writing off \$2,834,123.80 for depreciation of plants), \$8,427,842.68; dividends paid, \$4,344,342; surplus at the end of the year, \$15,110,796.77. The capital authorized is \$80,000,000, and the amount issued \$65,134,130. The land area of the three manufacturing plants is about 445 acres; the number of employees 28,000. The patent account, figured as an asset of \$4,000,000 in 1899, has been reduced gradually to \$1. The report mentions that electric motors in industrial establishments continue to increase in numbers and in variety of applications. The company have in hand contracts for motors of special design, for driving steel rolling mills, of an average capacity of 10,000 H. P. [Last year's report in *THE INDIA RUBBER WORLD*, July 1, 1906—page 335.]

THE SUMMER SHUTDOWN.

THE two factories of the Woonsocket Rubber Co. closed on July 26 and will resume work on August 6. This date was chosen for the annual shutdown in order to allow the employees to celebrate "Old Home Week" at Providence.

The Hood Rubber Co. resumed work at their factory on the Monday following July 4, after having been shut down during the intervening days.

The Republic Rubber Co. (Youngstown, Ohio), after having closed their factories for a few days for repairs and the annual inventory, resumed work on July 5.

The factory of the National India Rubber Co. (Bristol, Rhode Island) resumed work on the Monday following July 4, after a shutdown of three days. The tennis shoe output lately has been doubled.

RUBBER SOLED LEATHER SHOE CO.

FAYETTE W. WHEELER, admitted to the bar at Boston in 1898, has been disbarred on account of transactions growing out of his connection with the Rubber Soled Leather Shoe Co., of South Framingham, Mass. This company, formed in 1897 and petitioned into bankruptcy in 1904, elected Wheeler as president and general manager in 1902. He is charged with having, by misrepresentations, induced a certain Mrs. Sturtevant, now deceased, to sign notes for the company, the facts concerning which have come to light fully only of late. The company was formed to make a shoe patented by George F. Butterfield.

DIVIDEND PAYMENTS.

DIVIDENDS on the shares of the following companies were payable on July 1:

Boston Belting Co., quarterly, \$2 per share.

Robins Conveying Belt Co., preferred, semi-annual, 3½ per cent.

American Chicle Co., preferred, quarterly, 1½ per cent.

Celluloid Co., quarterly, 1½ per cent.

The directors of the United Shoe Machinery Corporation [see *THE INDIA RUBBER WORLD*, July 1, 1907—page 316] declared a dividend of 1½ per cent. on the preferred shares and a dividend of 2 per cent. on the common shares, both payable July 15. All the shares are of the par value of \$25. This was in addition to a stock dividend amounting to 25 per cent. on the common stock authorized at the annual meeting in June.

TRIAL OF WALTER K. FREEMAN.

THE conviction of Walter K. Freeman on a charge of larceny made by Parke, Davis & Co., manufacturing chemists, in a New York court, was reported in *THE INDIA RUBBER WORLD* of April 1 last (page 225). He was sentenced to the State prison for three years, but made various motions for a new trial, on which a final hearing was not reached until July 22, when the sentence pronounced in April was confirmed. Freeman has succeeded in gaining another opportunity to move for a new trial, in a higher court, which motion will come up in September. Freeman has been confined in the Tombs prison in New York for more than a year, and is now held in \$10,000 bail.

ELECTRIC RUBBER MANUFACTURING CO.

THE sale of the plant of the Electric Rubber Manufacturing Co. (Rutherford, New Jersey), in bankruptcy, was reported in the last issue of this paper (page 321). The receivers have since notified the creditors that the Manhattan Storage Co. (New York) make certain claims against the company, in respect of tires alleged to have been bought under guarantee and found to be of poor quality, and the creditors of the rubber company were invited to appear on July 29, at the chancery court in Jersey City, when the receivers were to pray for the direction of the court as to the claims above mentioned. The Rutherford property sold for \$85,000, or in excess of the admitted claims.

OKONITE CO., LIMITED.

This company's annual return was filed in London on April 24. The whole capital (£120,000) has now been taken up, the final calls on a few shares having been made during the year. One-third of the capital is in ordinary shares and two-thirds in 6 per cent. preference shares. Mortgages and charges, £50,400, of which £33,000 are in the hands of trustees for the company.

NEW TIRE FABRIC COMPANY.

THE Passaic Cotton Mills filed articles of incorporation under the laws of New Jersey on February 5, 1907; capital, \$100,000. Incorporators: Robert D. Benson, Henry Binns and John D. Suffern, all of Passaic, N. J. The company are now building a plant at Passaic, intended to be in operation by September 15, for the manufacture of Sea Island and Egyptian cotton fabrics, particularly for motor tires and fire hose. For some time past Catlin & Co., of the cotton duck trade in New York, have controlled a mill at Worcester, Massachusetts, operated as the Worcester Rubber Tire Duck Co. The plant not being large enough for the growth of this business, it was decided to build at Passaic, and after the new factory is completed the work at Worcester will be closed. The Passaic plant stands on a tract of 5 acres, on the Delaware, Lackawanna and Western railroad. R. P. M. Eagles is vice-president and L. R. Cowdrey secretary and treasurer.

THE FISK RUBBER CO.

THE Fisk Rubber Co. have taken possession of the new building erected for their New York branch, at No. 1725 Broadway. Its equipment comprises a very complete tire vulcanizing plant. Mr. J. W. Bowman, who recently resigned as New York manager of The Fisk Rubber Co., is organizing in Boston the J. W. Bowman Co., which will engage in the sale of automobiles.

ATLANTIC RUBBER SHOE CO.'S AFFAIRS.

THE application of John R. Hegeman for the appointment of a receiver for the Atlantic Rubber Shoe Co., a corporation of New Jersey, was denied in the Chancery Court at Newark on July 11. Mr. Hegeman is a director in the company and the owner of 750 shares of preferred and 2,500 shares of common stock. His application for the receivership was based upon his opposition to the resolution to go into liquidation adopted by two-thirds of the shareholders on May 8 last. He declared the company to be financially able to continue business. The vice chancellor decided that the ultimate question must await final hearing, and that the court "ought not to interfere to displace the board of directors or enjoin the corporation from the transaction of its necessary business or from accomplishing its dissolution." Mr. Hegeman is president of the Metropolitan Life Insurance Co., of New York, and the board is composed principally of persons of financial importance.

The Atlantic Rubber Shoe Co. was incorporated December 18, 1901, to exploit the Douglass patents for making rubber foot wear by machinery. A factory was built at Cranston, Rhode Island, and operated from about May 1 to December 24, 1904. On November 2, 1906, the factory property was sold at auction for \$137,000, which amount is stated to be now in bank, chargeable with about \$12,000 in liabilities. The capital authorized by the charter was \$10,000,000, one-fourth being in preferred stock. On December 20, 1905, the total capital was written down to \$800,000, through the reduction of the par value of the preferred stock to \$20 and of the common to \$4 per share. The purchaser of the Cranston plant was announced to be William H. Perry, of Providence. The rubber machinery contained in it, it is understood, has been removed to factories of the United States Rubber Co., which corporation is currently reported to control the Atlantic Rubber Shoe Co. to-day.

MOTOR OMNIBUSES FOR FIFTH AVENUE.

THE Fifth Avenue Coach Co., owned by the New York Transportation Co., have acquired for use on Fifth avenue, New York, 15 De Dion-Bouton omnibus chassis, which have been fitted on

this side with doubled deck bodies of the London type, seating 34 passengers. These buses are fitted with single solid rubber tires on the front wheels and twin tires on the rear. For the purpose for trying out the various makes of American tires the business will be divided among different factories. The buses will be equipped with odometers and a careful record kept of the mileage of each tire, so that comparative statistics will be available as to the maintenance cost of the several makes. The company have planned to have the new buses in commission by this date.

TRADE NEWS NOTES.

THE wholesale shoe firm of George H. Reeder & Co., at Grand Rapids, Michigan, has become the Grand Rapids Shoe and Rubber Co., Inc. They are selling agents for the Hood Rubber Co., carrying a complete line of "Hood" and "Old Colony" rubbers and "Greyhound" tennis shoes, in addition to their regular line of leather goods.

Earle Brothers, brokers of crude india-rubber and gutta-percha, No. 66 Broad street, New York, announce the admission to their firm of Mr. Harry W. Laird and Mr. Russell W. Earle, as from June 1, 1907.

Alfred E. Moore, of Philadelphia, insulated wire manufacturer, reports that relations with H. E. Cobb, of Chicago, terminated on June 30, and that arrangements have not been concluded for further representation in that territory.

Quaker City Rubber Co., of Philadelphia, have removed their city offices from No. 409 to No. 629 Market street, with a view to obtaining more room.

A system of drying belting is being installed for The Rossendale-Reddaway Belting and Hose Co., Limited (Newark, New Jersey), by the R. F. Sturtevant Co., of Boston. The equipment consists of a large fan with steam heater, through which air is drawn, heated and forced through ducts to the desired points.

In answer to a correspondent inquiring as to which is "the better investment for a business man to hold for a year or more," United States Steel preferred or United States Rubber first preferred, the *Wall Street Journal* replies that there is little choice, as "the dividends on each seem well assured." Another tribute to the rubber company's issues for investment purposes came out recently when a waiter in a New York restaurant was found to hold 100 shares (worth over \$10,000) of its preferred stock.

An extensive business in golf balls and other golf goods is done in the Far East by A. G. Spalding & Brothers, Inc. (New York), the goods being made at the company's large factory in London.

The usual quarterly dividend of 2½ per cent. on the shares of the Canadian General Electric Co. has been declared.

A new firm in the waste rubber trade in Boston is Beal & Broad, composed of Joseph Beal and Charles B. Broad, with a location at No. 453 Atlantic avenue, and also a warehouse in Chelsea.

J. H. Stedman & Co., Inc., waste rubber merchants, of Boston, have removed their office and warehouse to larger premises, at No. 555 Atlantic avenue.

The St. Louis Rubber Cement Co. (St. Louis) are now under the management of William O. Hadley, formerly of the Hadley Cement Co., of Lynn, Massachusetts.

Frank H. Mason, general manager of The B. F. Goodrich Co. (Akron, Ohio), has had plans prepared for what is designed to be one of the finest country residences in the vicinity of the lakes south of Akron.

One of the plants of the H. W. Johns-Manville Co., the asbestos manufacturers, in Brooklyn, New York, was damaged by fire on June 29, to the extent of \$50,000.

The Consumers' Rubber Co., a jobbing company of Cleveland, Ohio, have been registered under the laws of Illinois as a foreign corporation, authorized to do business in that state.

TRADE NEWS NOTES.

The Western Wire Sales Co., of Chicago, have been made general Western agents of the Bay State Insulated Wire and Cable Co. (Hyde Park, Massachusetts), recently incorporated to manufacture regular lines of rubber and lead covered insulated wires and cables, and a specialty of railroad signal wire.

In the United States circuit court at New York an injunction has been issued, in favor of the L. E. Waterman Co., restraining all others from using the name "Waterman's Ideal Fountain Pen."

Washington I. Finch, some time with the National India Rubber Co. (Bristol, Rhode Island), has been appointed superintendent at the rubber factory of the Clifton Manufacturing Co., at Jamaica Plain, Boston.

The directors of the Waterbury Co. (of New Jersey), manufacturers of insulated wire, with offices at No. 69 South street, New York, have declared the regular quarterly dividend of 2 per cent. on the preferred stock and a quarterly dividend of 2½ per cent. on the common stock, both payable July 1.

ADDITIONAL AKRON ITEMS.

THE excessive heat of late has caused not little inconvenience in some of the rubber factories. It is stated that in one factory, employing about a hundred men in the tire vulcanizing department, it was necessary on one day lately to relieve every one of them from one at some time or other during the day, rendering it necessary to close the department.

Mr. Arthur H. Marks, vice-president of The Diamond Rubber Co., with his family, has been spending some time at Marblehead, Massachusetts, whence reports come of his having had a launch built.

Aluminum Flake, it is learned from genial Frank Reifsnider, of Akron, is now in regular use in 60 rubber factories, the sales at the present time amounting to about 2,300,000 pounds a year. As a smooth, inert, toughening ingredient in rubber compounding, it certainly has great value. It is as a heat resistant, however, that it seems to make its best record; that is why in tire treads, inner tubes, steam hose, packing, and the like it is so widely used.

A SON OF GOODYEAR HONORED.

PROFESSOR WILLIAM H. GOODYEAR, M.A., the only surviving son of Charles Goodyear, of rubber fame, has been engaged this summer on important work on the cathedral at Amiens, France. He has lately been elected honorary academician of the Royal Academy of Fine Arts of Venice, in view of [as the official notice to him states] "your many services to Italy and especially to Venice, through your highly important publications and industrious studies on our church of St. Mark." He had been elected already an honorary member of the Royal Academy of Milan, the Society of Architects of Rome, the Society of Architects of Great Britain, etc. Professor Goodyear is not an architect, but these honors have been recognitions of his discoveries in medieval architecture. His home is in Brooklyn, New York.

PERSONAL MENTION.

ON the eve of his departure for Europe as resident director in London of the United States Rubber Co., Mr. Eben H. Paine was tendered a dinner at the Hotel Astor, New York, by the selling agents of the company in this country. At the conclusion of the dinner Mr. Paine was presented by his entertainers with a memento of their regard in the shape of a handsome gold cigarette case, appropriately inscribed.

Colonel Samuel P. Colt, president of the United States Rubber Co., whose illness was mentioned in these notes last month, has been improving meanwhile, but his projected vacation trip to Europe has been postponed indefinitely.

Colonel Frank L. Locke, whose retirement from the post of general superintendent of the factories of the Boston Rubber Shoe Co. was referred to in the last INDIA RUBBER WORLD (page 317), took his leave of the office on the last day of June. Dele-

gations from various departments of the factory called upon him to express their regret at his retirement and their good wishes for his success in the new field which he has chosen. Colonel Locke is taking a vacation in Europe before assuming his new work as president of the Boston Young Men's Christian Union.

Mr. Gordon Waldron, interested in rubber planting in Nicaragua, after an absence for some time in Canada (his home) and the United States, has returned to Bluefields, near which his plantation is located.

Mr. Edward A. Kummel, general manager of The Ocean Beach Fruit Lands Co., with an estate at Ocean Beach, province of Pinar del Rio, Cuba, during the month visited the home office, at Milwaukee, Wisconsin. He reports that about 485 *Castilloa* rubber plants survived the cyclone of several months ago and are thriving. The company will replace the loss of rubber by new plantings. The company reports good returns from tobacco and other farm products.

Mr. Edward R. Rice, manager of sales of the United States Rubber Co., started for Europe on July 17 for a vacation trip of a few weeks.

Mr. Rhodes Lockwood, of the Davidson Rubber Co. (Boston), intends sailing on August 8 for a three months' visit to Europe.

Mr. William M. Ivins, formerly president of the General Rubber Co., has been appointed by the Public Service Commission, created recently under the New York laws, as special counsel to investigate and report upon the merger between the leading transportation lines in the city, if such exists. It is regarded generally as a very important assignment.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for eight weeks, ending on the dates appearing in the table below:

COMMON STOCK.

Week	June 1	Sales	1920 shares	High	36¾	Low	35
Week	June 8	Sales	1325 shares	High	36½	Low	33¾
Week	June 15	Sales	3240 shares	High	37¾	Low	35
Week	June 22	Sales	370 shares	High	34½	Low	34½
Week	June 29	Sales	2200 shares	High	38	Low	36
Week	July 6	Sales	2750 shares	High	39½	Low	37
Week	July 13	Sales	1400 shares	High	37	Low	36½
Week	July 22	Sales	5450 shares	High	36½	Low	32½

For the year—High 50½, Feb. 16; Low 32¼, July 18.

FIRST PREFERRED STOCK.

Week	June 1	Sales	3202 shares	High	100½	Low	98½
Week	June 8	Sales	600 shares	High	100¼	Low	99
Week	June 15	Sales	1467 shares	High	100¾	Low	98½
Week	June 22	Sales	845 shares	High	99	Low	98
Week	June 29	Sales	3001 shares	High	100	Low	97¾
Week	July 6	Sales	1730 shares	High	100¾	Low	99
Week	July 13	Sales	2035 shares	High	101½	Low	100½
Week	July 20	Sales	1030 shares	High	100½	Low	98

For the year—High 100¾, Jan. 7; Low 97¾, June 24.

SECOND PREFERRED STOCK.

Week	June 1	Sales	1080 shares	High	60¾	Low	68
Week	June 8	Sales	200 shares	High	60½	Low	69
Week	June 15	Sales	1250 shares	High	60¾	Low	68
Week	June 22	Sales	10 shares	High	68	Low	68
Week	June 29	Sales	510 shares	High	69	Low	66
Week	July 6	Sales	224 shares	High	70	Low	69
Week	July 13	Sales	210 shares	High	69½	Low	67
Week	July 27	Sales	100 shares	High	67¼	Low	67¼

For the year—High 78¼, Jan. 7; Low, 66, June 26.

WANTS AND INQUIRIES.

- [419] PRICES are wanted on a first-class hose lining machine for vulcanizing cotton rubber lined hose.
- [420] A reader wishes names of manufacturers of "Dureflex" packing.
- [421] Information is desired as to who makes or sells rubber plaques used by feather dyers in shading feathers.
- [422] Who makes oleum white?

TRACTION TREAD TIRE FIRM BANKRUPT.

JOHN D. PRINCE, of No. 34 East Thirty-second street, New York, who filed a petition in bankruptcy July 25, with liabilities of \$23,800 and no assets, was a partner in the Traction Tread Tire Co. (previously the R & P Traction Tread and Tube Co.), of No. 1005 Broadway, which ceased to do business in January, 1907. The petitioner's former partner, Howard G. Rodgers, of Cincinnati, is among the creditors.

THE REVERE EMPLOYEES' PICNIC.

THE annual picnic of the employees of the Revere Rubber Co. (Boston) was held on Saturday, July 20, at Centennial grove, in Essex. The party was on a special train of ten cars, and enjoyed dinner under the large pine trees, together with a program of sports that offered something for every taste. There was a baseball game, together with races, jumping, and other field sports. The committee consisted of A. N. Smith and John Egan.

AN ENGLISH TRADE MARK CASE.

ON March 2, 1906, F. Reddaway & Co., Limited, commenced an action against the Irwell and Eastern Rubber Co., Limited, both of Manchester, claiming an injunction against the sale of any machinery beltings by the latter under the brands "Lanco" or "Lanco Balata," or any other words which might suggest that the goods were the product of the plaintiff company. It was alleged that the plaintiffs had acquired a valuable trade reputation in the sale of machine beltings under the brand "Lancashire," which was habitually abbreviated by many in the trade, in ordering, as "Lanco," "Lanca," and the like, and that the name "Lanco," in use by the defendants, was likely to be confused

with the trade name in question. The defendants denied that their trade names were intended to be mistaken for "Lancashire" or were likely to be, that the name "Lancashire" was applied to hair belting, whereas the defendants' brands were applied to balata belting alone, two products not likely to become confused in the trade. The action came up for trial July 10, 1906, and was dismissed, when the plaintiffs appealed. In the court of appeals recently the action was dismissed, with costs for the defendants.

THE THEORY OF "SHORT" SALES.

IN reply to a correspondent who asks "Is it against the rules of the New York Stock Exchange to go short, that is, to sell stocks the seller has not got?" the *New York Journal of Commerce* says:

"There is no rule of the New York Stock Exchange forbidding a member to sell stocks he does not yet own. Manufacturers frequently sell goods which they have not, and which are not in existence when the sale is made. Being confident of their ability to get the goods in time to make delivery under the sale, they bind themselves to do so. One who sells stocks that he does not own at the time of the sale is in a position somewhat similar. If he is willing to accept whatever risk may be involved the Exchange is willing that he should do so."

BELTARD balls are among the latest products from Galalith, a material prepared in France and Germany from skimmed milk.

Review of the Crude Rubber Market.

THE tendency of the market has been upward since our last report, the month closing with an advance on practically all grades listed below. The advance on fine new Upriver is about 5 cents per pound. The rise in Pará sorts has tended to materially strengthen the position of Africans and Centrals, though these had not declined to the same extent as Paras. The condition of the market reflects an increased activity in buying, though the month has been without any particularly large transactions, this being a period of the year when a certain amount of dullness in the trade is to be expected.

There can now be given the exact arrivals at Pará (including caucho) during the crop year ended June 30—38,005 tons, against 34,400 last year and 33,060 the year before.

The Antwerp sale of July 18 resulted in an average advance of 20 centimes per kilogram [= 13 cents per pound] over the prices realized in June.

Following is a statement of the prices of Pará grades, one year ago, one month ago, and July 30—this date:

PARÁ.	Aug. 1, '06.	July 1, '07.	July 30.
Islands, fine, new.....	118 a 119	104 a 105	107 a 108
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	123 a 124	116 a 117	115 a 116
Upriver, fine, old.....	124 a 125	112 a 113	117 a 118
Islands, coarse, new.....	64 1/2 a 65	61 a 62	62 a 63
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	66 a 67	87 a 88	90 a 91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	72 a 73	70 a 71	71 a 72
Caucho (Peruvian) ball.....	86 a 87	82 a 83	90 a 91
Ceylon, fine, sheet.....	148 a 149	127 a 128	133 a 134

AFRICAN.

Sierra Leone, 1st quality.....	99 a 100	Lopori ball, prime.....	105 a 106
Massai, red.....	99 a 100	Lopori strip, prime.....	99 a 100
Benguella.....	73 a 73 1/2	Madagascar, pinky.....	83 a 84
Accra flake.....	18 a 19	Ikelimba.....	none here
Cameroon ball.....	74 a 75	Soudan mitters.....	85 a 86

CENTRALS.

Esmeralda, sausage.....	87 a 88	Mexican, scrap.....	84 a 85
Guayaquil, strip.....	71 a 72	Mexican, slab.....	64 a 65
Nicaragua, scrap.....	84 a 85	Mangabeira, sheet.....	50 a 60
Panama, slab.....	64 a 65	Guayule.....	45 a 48

EAST INDIAN.

Assam.....	95 a 96	Borneo.....	37 a 38
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Late Pará cables quote:

Per Kilo.		Per Kilo.	
Islands, fine.....	58 3/50	Upriver, fine.....	68 5/50
Islands, coarse.....	28 5/50	Upriver, coarse.....	48 5/50
		Exchange.....	15 3-16d.

Latest Maniós advices:

Upriver, fine.....	68 3/50	Upriver, coarse.....	48 2/50
		Exchange.....	15 1/4d.

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1907.	Total 1906.	Total 1905.
Stocks, May 31.....	304	313 =	309	287	578
Arrivals, June.....	413	313 =	726	538	490
Aggregating.....	717	378 =	1095	825	1068
Deliveries, June.....	489	306 =	795	634	474
Stocks, June 30.....	231	72 =	303	191	594

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, per pound—show practically no change:

Old rubber boots and shoes—domestic.....	11 7/8 a 12
Old rubber boots and shoes—foreign.....	10 3/4 a 11
Pneumatic bicycle tires.....	7 1/2 a 7 3/4
Automobile tires.....	6 7/8 a 10
Solid rubber wagon and carriage tires.....	10 a 10 1/4
White trimmed rubber.....	12 1/2 a 12 3/4
Heavy black rubber.....	5 3/4 a 6
Air brake hose.....	4 1/4 a 5
Fire and large hose.....	3 5/8 a 3 3/4
Garden hose.....	2 1/2 a 2 3/4
Matting.....	1 1/2 a 1 5/8

	PARA.		ENGLAND.			
	1907.	1906.	1905.	1907.	1906.	1905.
Stocks, May 31...Tons	605	60	305	1000	1000	370
Arrivals, June.....	1070	1485	985	505	345	760
Aggregating	1075	1575	1350	1025	1405	1130
Deliveries, May.....	1505	1545	1190	675	500	645
Stocks, June 30.....	170	30	160	950	905	485

	1907.	1906.	1905.
World's visible supply, June 30...Tons	2,223	2,150	1,790
Para receipts, July 1 to June 30.....	31,530	29,060	27,311
Para receipts, Caucho, same dates....	6,340	5,620	5,474
Afloat Para to United States, June 30..	240	650	96
Afloat Para to Europe, June 30.....	560	305	455

Havre Rubber Arrivals.

FROM FRENCH AFRICA.

April 16.—By the <i>Europe</i>	46,451 kilos.
May 17.—By the <i>Maranhao</i>	52,347 "
June 15.—By the <i>Europe</i>	13,429 "
July 10.—By the <i>Paraguay</i>	45,208 "

Plantation Rubber From the Far East.

CEYLON WEEKLY EXPORTS.

WEEK ending May 20—10,827 pounds; week ending May 27—1,499 pounds; week ending June 3—5,057 pounds; week ending June 10—11,132 pounds; week ending June 17—15,198 pounds. Previously reported, 234,865; total since January 1—288,178 pounds. Total to June 10, deducting rubber not the produce of Ceylon, 169,008 pounds.

SHIPMENTS FROM THE STRAITS—JAN. 1 TO MAY 31.

	Pounds.		Pounds.
Great Britain.....	465,600	Australia	12,534
Europe	41,134	Ceylon	61,467
United States.....	400		
Japan	22,261	Total	603,396
[From Singapore, 546,435; from Penang, 56,961.]			

AT THE AUCTIONS.

LONDON, June 21.—Sales of 283 packages—about 17 tons—at an average of 4s. 11½d. [= \$1.21½]; average for plantation one year ago, 5s. 3¼d. [= \$1.28¼]. Prices generally higher than a fortnight ago by 1d. A fine parcel of Lanadron estate block (54 packages) sold at 5s. 5d. [= \$1.31¾]. The highest paid was 5s. 7½d. [= \$1.36¾] for Ceara biscuits from Ranghodde estate, Ceylon.

LONDON, July 5.—Prices again showed an advance, though the greater part of the offerings (about 20¼ tons) did not find buyers. Highest paid 5s. 7½d. [= \$1.36¾] for fine pale worm, from Gikiyanakande estate, Ceylon. Pale sheet and Ceara biscuits sold up to 5s. 6¼d. [= \$1.34¼].

ANTWERP, June 18.—Eleven lots of Straits plantation, of dif-

ferent grades, amounting to 5,657 kilograms, found buyers at 10.72½ francs to 15.72½ francs. The latter price equals \$1.38 per pound.

Lisbon Rubber Arrivals.

[From July 1 to June 30; reported by Martin Weinstein & Co., Lisbon; weights in tons.]

Sorts.	1906-07.	1905-06.	1904-05.	1903-04.
Benguella	1,690	1,547	1,885	1,818
Loanda	687	570	704	909
Thimbles	101	111	177	143
Other sorts	62	74	51	66
Total	2,540	2,302	2,817	2,936

Rubber Receipts at Manaus.

DURING June and the twelve months of the crop season for three years:

		JUNE.		JULY-JUNE.			
		1907.	1906.	1905.	1906-07.	1905-06.	1904-05.
Rio	Purus=Acre tons	102	249	123	8,357	6,070	6,243
Rio	Madeira	194	148	100	3,514	2,072	2,078
Rio	Jurua	65	245	33	4,804	3,988	3,944
Rio	Javary-Iquitos	126	21	20	2,078	2,866	2,618
Rio	Solimoes	7	16	21	933	1,056	903
Rio	Negro	17	35	31	632	702	787
Total		511	714	340	21,368	18,554	17,473
Caucho		330	482	327	5,467	5,099	4,613
Total		944	11,96	667	26,775	23,653	21,086

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

JUNE 24.—By the steamer <i>Madeirense</i> , from Manaoas and Para:	Importers.	Fine.	Medium.	Coarse.	Caucho.	Total.
General Rubber Co.....	35,000	12,700	48,600	34,500		131,700
New York Commercial Co.	20,000	6,500	27,900	3,300		57,700
A. T. Morse & Co.....	10,800	1,000	40,300	3,700		55,800
Hagemeyer & Brunn	13,500	400	27,700			41,600
Poel & Arnold	200	6,100	9,600	15,200		31,100
Edmund Reeks & Co.....	6,100	3,200	19,800			29,100
Neale & Co.....		300	1,300	700		2,300
C. P. dos Santos.....	11,100	6,800	32,000	1,300		51,200
Total	97,600	37,000	207,200	58,700		400,500

JULY 5.—By the steamer <i>Basil</i> , from Manão's and Pará:					
General Rubber Co.	106,600	35,100	67,600	47,500=	256,800
Poel & Arnold	22,200	9,300	50,300	7,600=	89,400
New York Commercial Co.	38,800	23,000	20,000	2,800=	85,500
Hagemeyer & Brunn.....	30,700	2,500	23,100	....=	56,300
Edmund Reeks & Co.....	18,000	1,800	25,100	....=	45,800
A. T. Morse & Co.....	13,000	1,700	5,100	3,500=	23,300
Neale & Co.....	.....	1,100	3,000	....=	7,000
G. Amsinck & Co.....	1,800	600	3,000	....=	5,400
Total	232,000	75,100	201,000	61,400=	569,500

JULY 15.—By the steamer <i>Coarense</i> , from Manaoas and Para:					
General Rubber Co.	23,000	6,100	35,200	35,100=	100,300
New York Commercial Co. .	44,000	12,600	8,700	2,300=	67,600
Poel & Arnold . . . . .	.....	.....	56,900	500=	57,400
A. T. Morse & Co.	10,800	1,700	18,600	.....	31,100
Hagemeyer & Brunn . . .	15,300	.....	11,200	.....	26,500
Edmund Reeks & Co.	6,800	700	6,600	.....	14,100
C. P. dos Santos. ....	.....	.....	2,600	.....	2,600
Neale & Co. ....	.....	300	2,000	.....	2,300
Total	100,800	21,400	141,800	37,900=	301,900

PARA RUBBER VIA EUROPE.

JUNE 22.—By the steamer <i>Celtic</i> —Liverpool:	Pounds.	Pounds.
Poel & Arnold (Coarse).....	11,500	
JUNE 26.—By the <i>Panama</i> —Mollendo:		
New York Commercial Co. (Fine).....	5,000	
JUNE 26.—By the <i>Cronia</i> —Liverpool:		
General Rubber Co. (Caucho).....	22,500	
JUNE 26.—By the <i>Pennsylvania</i> —Hamburg:		
New York Commercial Co. (Fine).....	24,000	
Rubber Trading Co. (Fine).....	2,000	26,000
JULY 1.—By the <i>Prins Willem</i> —Bolivia, Venza:		
Thebaud Brothers (Fine).....	11,000	
Thebaud Brothers (Coarse).....	5,000	16,000
JULY 5.—By the <i>Baltic</i> —Liverpool:		
New York Commercial Co. (Fine).....	30,000	
A. T. Morse & Co. (Coarse).....	11,000	
Poel & Arnold (Coarse).....	5,000	46,000
JULY 5.—By the <i>Hudson</i> —Havre:		
Poel & Arnold (Coarse).....	11,500	
JULY 8.—By the <i>St. Louis</i> —London:		
Poel & Arnold (Fine).....	7,000	

CENTRALS—Continued.

JULY 8.—By the <i>Minnehaha</i> —London:	General Rubber Co. (Coarse).....	13,500
JULY 9.—By the <i>Bataria</i> —Hamburg:		
New York Commercial Co. (Fine).....	26,000	
General Rubber Co. (Caucho).....	4,500	30,500
JULY 10.—By the <i>Carmania</i> —Liverpool:		
Poel & Arnold (Fine).....	25,000	
General Rubber Co. (Fine).....	8,000	
New York Commercial Co. (Fine).....	5,000	
Poel & Arnold (Caucho).....	36,000	74,000
JULY 15.—By the <i>Prins Maurits</i> —Ciudad, Bol.:		
Thebaud Brothers (Fine).....	22,500	
Thebaud Brothers (Coarse).....	18,000	
G. Amsinck & Co. (Coarse).....	3,500	44,000
JULY 15.—By the <i>Arcadia</i> —Hamburg:		
New York Commercial Co. (Fine).....	22,500	
A. T. Morse & Co. (Coarse).....	13,500	36,000
JULY 16.—By the <i>Venetia</i> —Mollendo:		
W. R. Grace & Co. (Caucho).....	8,000	

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

JUNE 22.—By the <i>Byron</i> —Bahia:	Pounds
Poel & Arnold	47,000

CENTRALS—Continued.

American Commercial Co.....	31,000	
New York Commercial Co.....	11,000	
A. Hirsch & Co.....	11,000	
J. H. Rossback & Bros.....	3,500	103,500
JUNE 22.—By the <i>Esperanza</i> =Frontera:		
Harburger & Stack	9,500	
Strube & Ultze	4,000	
H. Marquardt & Co.....	3,500	
F. Steiger & Co.....	1,500	
New York Commercial Co.....	1,500	
Frederick Probst & Co.....	1,000	
Graham, Hinkley & Co.....	1,000	22,000
JUNE 24.—By the <i>Momus</i> =New Orleans:		
Manhattan Rubber Mfg. Co.....	4,000	
G. Amsinck & Co.....	1,500	
Eggers & Heinlein.....	1,500	7,000
JUNE 24.—By the <i>El Dio</i> =Galveston:		
Continental-Mexican Rubber Co.....	*40,000	
JUNE 24.—By the <i>Vigilancia</i> =Tampico:		
New York Commercial Co.....	*110,000	
Remsch & Helde.....	*25,000	
Continental-Mexican Rubber Co.....	*25,000	
Edward Maurer	*35,000	*105,000

JUNE 26.—By the <i>Panama</i> =Colon	
Hirzel, Feltman & Co.	3,500
Piza Nephews Co.	2,500
Meyer Hecht	1,500
Isaac Brandon & Bros.	1,500
Aramburo, Incorporated	1,500
G. Amsinck & Co.	1,000
Jose Julia & Co.	1,000
12,500	
JUNE 27.—By the <i>Sarua</i> =Colombia:	
Escobar & Gorgorza Co.	5,000
G. Amsinck & Co.	1,500
United Fruit Co.	1,000
A. Held	1,000
Kunhardt & Co.	1,000
Eggers & Heinlein	1,000
10,500	
JUNE 27.—By the <i>Antilles</i> =New Orleans:	
Manhattan Rubber Mfg. Co.	4,000
A. N. Rotholz	2,000
A. T. Morse & Co.	1,000
7,000	
JUNE 28.—By the <i>El Cid</i> =Galveston:	
Continental-Mexican Rubber Co.	25,000
JUNE 28.—By the <i>Goyaz</i> =Pernambuco:	
A. D. Hitch & Co.	4,500
JUNE 29.—By the <i>Mejico</i> =Frontera:	
Harburger & Stack	6,500
G. Amsinck & Co.	1,000
E. Steiger & Co.	1,000
Graham, Hinkley & Co.	1,000
H. Marquardt & Co.	1,000
10,500	
JULY 1.—By the <i>Manzanillo</i> =Tampico:	
New York Commercial Co.	45,000
JULY 1.—By the <i>El Valle</i> =Galveston:	
Continental-Mexican Rubber Co.	22,500
JULY 2.—By the <i>Alliance</i> =Colon:	
G. Amsinck & Co.	4,000
Roldau & Van Sickle	3,000
Henry Mann & Co.	3,000
Demarest Bros. & Co.	2,000
Suzarte & Whitney	1,000
Wessels, Kulenkamp & Co.	1,000
14,000	
JULY 2.—By the <i>Tenoece</i> =Bahia:	
Poel & Arnold	27,000
New York Commercial Co.	25,000
America Commercial Co.	20,000
A. Hirsch & Co.	8,000
J. H. Rosshack & Bros.	5,000
85,000	
JULY 3.—By the <i>Joachim</i> =Colombia:	
D. A. De Lima & Co.	2,500
A. Held	2,500
Isaac Brandon & Bros.	1,500
6,500	
JULY 3.—By the <i>El Siglo</i> =Galveston:	
Continental-Mexican Rubber Co.	44,500
JULY 6.—By the <i>Montroy</i> =Frontera:	
Harburger & Stack	3,500
Thebaud Brothers	2,500
New York Commercial Co.	2,000
8,000	
JULY 8.—By the <i>El Sud</i> =Galveston:	
Continental-Mexican Rubber Co.	22,500
JULY 8.—By the <i>Bayamo</i> =Tampico:	
New York Commercial Co.	46,000
Continental-Mexican Rubber Co.	44,000
Edward Maurer	35,000
125,000	
JULY 9.—By the <i>Sihria</i> =Honduras Ports:	
August Sanders & Co.	3,000
A. Rosenthal's Sons	2,000
Isaac Brandon & Bros.	1,000
Suzarte & Whitney	1,000
A. D. Straus & Co.	1,000
8,000	
JULY 11.—By the <i>Financ</i> =Colon:	
Piza, Nephews Co.	2,500
Maitland, Coppell & Co.	1,500
G. Amsinck & Co.	1,500
George A. Alden & Co.	1,000
6,500	
JULY 12.—By the <i>Merida</i> =Frontera:	
Harburger & Stack	8,000
E. Steiger & Co.	1,000
H. Marquardt & Co.	1,000
10,000	
JULY 13.—By the <i>Atrato</i> =Greytown:	
G. Amsinck & Co.	7,500
Aramburo, Incorporated	2,000
American Trading Co.	1,500
11,000	
JULY 13.—By the <i>El Paso</i> =Galveston:	
Continental-Mexican Rubber Co.	22,500
JULY 15.—By the <i>Memus</i> =New Orleans:	
A. T. Morse & Co.	11,000
A. N. Rotholz	1,500
Manhattan Rubber Mfg. Co.	1,500
14,000	
JULY 15.—By the <i>El Norte</i> =Galveston:	
Continental-Mexican Rubber Co.	22,500
JULY 17.—By the <i>Prins Aug. Willem</i> =Colombia:	
D. A. De Lima	2,000
A. Held	1,000
Escobar & Gorgorza Co.	1,000
Kunhardt & Co.	1,000
5,000	
JULY 17.—By the <i>Camaguey</i> =Tampico:	
Continental-Mexican Rubber Co.	45,000

Edward Maurer	40,000
New York Commercial Co.	20,000
105,000	
JULY 18.—By the <i>El Rio</i> =Galveston:	
Continental-Mexican Rubber Co.	22,500
JULY 18.—By the <i>Titan</i> =Bahia:	
Poel & Arnold	31,000
American Commercial Co.	15,000
J. H. Rosshack & Bros.	11,000
New York Commercial Co.	9,000
A. D. Hitch & Co.	7,000
73,000	
JULY 19.—By the <i>Advance</i> =Colon:	
G. Amsinck & Co.	9,000
Jose Julia & Co.	2,500
Meyer Hecht	2,000
A. dos Santos & Co.	1,500
Demarest Bros. & Co.	1,500
Roldau & Van Sickle	1,500
W. K. Grace & Co.	1,000
L. Johnson & Co.	1,000
20,000	
JULY 22.—By the <i>Pigallanca</i> =Tampico:	
New York Commercial Co.	25,000
Continental-Mexican Rubber Co.	22,500
Diamond Rubber Co.	9,000
H. Marquardt & Co.	2,500
Graham, Hinkley & Co.	1,500
60,500	

*This sign, in connection with imports of Centrals, denotes Guayule rubber.

AFRICANS.

JUNE 22.—By the <i>Memphis</i> =Antwerp:	
Robinson & Stiles	7,000
JUNE 22.—By the <i>Celtic</i> =Liverpool:	
Poel & Arnold	5,500
George A. Alden & Co.	5,500
A. T. Morse & Co.	4,500
Livesey & Co.	3,500
19,000	
JUNE 24.—By the <i>St. Laurent</i> =Havre:	
Poel & Arnold	115,000
C. P. dos Santos	7,000
122,000	
JUNE 28.—By the <i>Peninsular</i> =Lisbon:	
General Rubber Co.	168,000
George A. Alden & Co.	22,500
190,500	
JUNE 29.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.	22,500
Livesey & Co.	22,500
Poel & Arnold	11,000
56,000	
JULY 1.—By the <i>Arabic</i> =Liverpool:	
A. W. Brunn & Co.	4,500
General Rubber Co.	4,500
9,000	
JULY 2.—By the <i>Minneapolis</i> =London:	
Robinson & Stiles	8,000
JULY 3.—By the <i>Uderland</i> =Antwerp:	
George A. Alden & Co.	40,000
Poel & Arnold	40,000
A. T. Morse & Co.	22,500
Rubber Trading Co.	7,000
Windmiller & Reelker	11,000
Robinson & Stiles	4,500
125,000	
JULY 5.—By the <i>Baltic</i> =Liverpool:	
Rubber Trading Co.	3,500
A. T. Morse & Co.	2,500
Livesey & Co.	2,500
8,500	
JULY 8.—By the <i>St. Louis</i> =London:	
General Rubber Co.	33,500
JULY 9.—By the <i>Batavia</i> =Hamburg:	
A. T. Morse & Co.	54,000
Rubber Trading Co.	3,500
57,500	
JULY 9.—By the <i>Kroonland</i> =Antwerp:	
George A. Alden & Co.	16,000
A. T. Morse & Co.	13,000
Joseph Cantor	5,000
34,000	
JULY 10.—By the <i>Carmania</i> =Liverpool:	
General Rubber Co.	11,500
JULY 11.—By the <i>Amerika</i> =Marseilles:	
Livesey & Co.	7,000
JULY 12.—By the <i>Cedric</i> =Liverpool:	
George A. Alden & Co.	13,000
JULY 15.—By the <i>Arcadia</i> =Hamburg:	
George A. Alden & Co.	18,000
Livesey & Co.	11,000
W. L. Gough Co.	1,500
30,500	
JULY 15.—By the <i>Philadelphia</i> =London:	
General Rubber Co.	4,500
JULY 17.—By the <i>Zoeland</i> =Antwerp:	
Rubber Trading Co.	22,500
JULY 22.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co.	70,000
George A. Alden & Co.	2,000
72,000	
JULY 22.—By the <i>Oscola</i> =Lisbon:	
General Rubber Co.	56,000
JULY 22.—By the <i>California</i> =Havre:	
Poel & Arnold	47,000
George A. Alden & Co.	10,000
57,000	

EAST INDIAN.

POUNDS.

JUNE 21.—By the <i>Athole</i> =Singapore:	
Heabler & Co.	10,000
Joseph Cantor	22,000
A. T. Morse & Co.	14,000
H. Pauli	9,700
Poel & Arnold	9,000
83,500	
JUNE 25.—By the <i>Goldfields</i> =Colombia:	
A. T. Morse & Co.	9,500
JUNE 25.—By the <i>Munnet nka</i> =London:	
General Rubber Co.	11,500
Robinson & Stiles	2,500
Larle Brothers	2,000
A. T. Morse & Co.	1,500
17,500	
JULY 1.—By the <i>St. George</i> =Singapore:	
Poel & Arnold	13,500
Joseph Cantor	9,000
22,500	
JULY 8.—By the <i>St. Louis</i> =London:	
Poel & Arnold	5,500
JULY 8.—By the <i>Minckelma</i> =London:	
George A. Alden & Co.	5,500
JULY 12.—By the <i>Tus nka</i> =Colombia:	
A. T. Morse & Co.	13,000
JULY 18.—By the <i>Teutonic</i> =London:	
Poel & Arnold	5,000
Akron, Ohio	2,500
7,500	
JULY 22.—By the <i>Montrose</i> =Singapore:	
Winter & Smilie	10,000
Joseph Cantor	28,000
Poel & Arnold	9,000
47,000	
*Denotes Plantation rubber.	
GUTTA JELUTONG.	
JUNE 21.—By the <i>Athole</i> =Singapore:	
Heabler & Co.	20,000
Joseph Cantor	15,000
H. Pauli	11,000
W. L. Gough Co.	350,000
N. Joachimson	450,000
Winter & Smilie	325,000
W. R. Russell & Co.	225,000
George A. Alden & Co.	100,000
J. W. Phyfe & Co.	20,000
William Tappenbeck	325,000
2,180,000	
JULY 1.—By the <i>St. George</i> =Singapore:	
Winter & Smilie	100,000
W. L. Gough Co.	900,000
George A. Alden & Co.	50,000
H. Pauli	45,000
285,000	
JULY 3.—By the <i>Vietnam</i> =Liverpool:	
Heabler & Co.	110,000
JULY 22.—By the <i>Montrose</i> =Singapore:	
Heabler & Co.	115,000
N. Joachimson	250,000
J. F. Recknaele & Son	7,000
372,000	
GUTTA PERCHA.	
POUNDS.	
JUNE 21.—By the <i>Athole</i> =Singapore:	
H. Pauli	35,000
Heabler & Co.	95,000
Poel & Arnold	25,000
155,000	
JUNE 26.—By the <i>Pennsylvania</i> =Hamburg:	
Robert Soltan Co.	7,000
JULY 22.—By the <i>Patricia</i> =Hamburg:	
Robert Soltan Co.	7,000
JULY 22.—By the <i>Montrose</i> =Singapore:	
H. Pauli	42,000
BALATA.	
JULY 1.—By the <i>Prins Willem</i> =Ciudad Bolivar:	
Middleton & Co.	10,000
JULY 1.—By the <i>Philadelphia</i> =La Guayra:	
G. Amsinck & Co.	4,500
JULY 5.—By the <i>Manoa</i> =Bemarras:	
Frame & Co.	10,000
George A. Alden & Co.	7,000
A. T. Morse & Co.	5,000
Middleton & Co.	2,500
24,500	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.

Imports:	Pounds.	Value.
India-rubber	4,745,800	\$3,303,454
Balata	21,424	0,282
Gutta-percha	412,608	25,885
Gutta-jelutong (Pontianak)	2,800,288	131,139
Total	8,400,300	\$3,460,760
Exports:		
India-rubber	67,718	\$8,245
Reclaimed rubber	71,204	8,103
Rubber Scrap imported	2,210,208	\$220,668



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AUGUST 1, 1907.

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Liverpool.

WILLIAM WRIGHT & Co. report [July 1]:

Fine Para. With large stocks holders evinced some anxiety to realize, and prices on spot for Upriver dropped to 4s. 6½d.; Islands 4s. 6½d. At these prices a better demand was experienced, and prices advanced somewhat to 4s. 7½d. closing with a hardening tendency and few sellers at current sales. With a good demand in Maniles and prices 3d. per pound above the parity of those ruling here, and in addition the certainty of small receipts, we are of opinion there is more room for an advance than a decline. For delivery there has been a strong inquiry at current rates, but only a fair business done owing to the cautious policy pursued by sellers.

Perman. There has been an exceedingly strong demand for Ball, and an advance of 3½d. to 3d. per pound has taken place. In our opinion, both the decline and the advance have been overdone; of course supplies are sure to be small, but manufacturers can use other grades in substitution, and if the “bulls” push prices too high they are likely to find themselves just as wincing as the “bears” did in the beginning of the month. In our opinion, today's value of Ball as compared with other grades is not over 15%.

EDMUND SCHLUTER & Co. report [June 30]:

Para Rubber.—Since our last report the market has scarcely moved at all, the price for hard fine in warehouse and for delivery having been 4s. 7½d. to 4s. 7¼d. for practically the whole of June. The market therefore seems for the present to have found its level, with rather an upward tendency during the first few days of the present month.

WORLD'S VISIBLE SUPPLY OF PARA, JUNE 30.

	1907.	1906.	1905.	1904.	1903.	1902.
Tons.....	3001	3147	2617	2028	3335	3776
Prices, hard, fine, 4/7½ 4 5/2 5/7 4/9¼ 3/11¼ 2/11½						

LIVERPOOL STOCKS OF AFRICAN RUBBER, JUNE 30.

	1907.....	1904.....	1901.....
301.....	560.....	768.....	
1906.....	371.....	777.....	
1905.....	368.....	543.....	1890.....
			530.....

Mr. Albert B. Bussweiler has retired from the rubber importing firm of Meyer & Bussweiler, Limited, formed in 1903, and has joined the india-rubber department of W. J. & H. Thompson, tea and general produce dealers, 38, Mincing lane, E. C., London. Mr. Bussweiler was a member of the one time firm of Symington, Bussweiler & Co.

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

May 1.—By the <i>Leopoldville</i>	377,850 kilos.
May 21.—By the <i>Bruxellesville</i>	243,000 “
June 11.—By the <i>Albertville</i>	208,050 “
July 4.—By the <i>Leopoldville</i>	294,600 “

At the June 18 auction a lot of 9,660 kilograms of guayule rubber, in blocks, described as “refined,” and estimated at 7.35 francs [=64 1-3 cents per pound], being held at that price, failed to find purchasers.

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	6,538,741	358,953	6,179,788
January-April.....	30,774,911	1,478,424	29,296,487
Five months, 1907.....	37,313,652	1,837,377	35,476,275
Five months, 1906.....	20,508,470	1,539,549	28,058,921
Five months, 1905.....	36,138,536	1,353,926	34,784,610

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	3,204,580	902,880	2,361,700
January-April.....	12,075,300	4,493,940	8,181,360
Five months, 1907.....	15,039,880	5,396,820	10,543,060
Five months, 1906.....	17,318,400	4,637,160	12,681,240
Five months, 1905.....	18,087,980	6,113,580	12,874,400

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	3,535,840	1,893,760	1,642,080
January-April.....	11,380,620	7,425,440	3,964,180
Five months, 1907.....	14,925,460	9,319,200	5,606,260
Five months, 1906.....	15,100,140	7,161,660	7,938,480
Five months, 1905.....	12,358,720	6,784,580	5,574,140

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	1,897,810	1,252,660	645,150
January-April.....	6,106,592	3,880,392	2,316,200
Five months, 1907.....	8,094,402	5,133,052	2,961,350
Five months, 1906.....	9,370,232	5,323,845	4,052,387
Five months, 1905.....	7,381,865	5,318,074	2,062,861

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1907.....	7,082,464	4,619,104	3,363,360
January-April.....	28,049,872	12,725,210	16,224,662
Five months, 1907.....	30,932,336	17,344,320	19,588,016
Five months, 1906.....	20,796,032	15,913,632	13,882,400
Five months, 1905.....	27,856,102	15,425,880	12,430,312

NOTE.—German statistics before Jan. 1, 1906, include Gutta-percha, Balata, old (waste) rubber. British figures include old rubber, French, Austrian and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce.

†Special Commerce.

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inside of coat.....



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HEVEA BRASILIENSIS

DICHOPEA GUTTA

GUTTA-PERCHA

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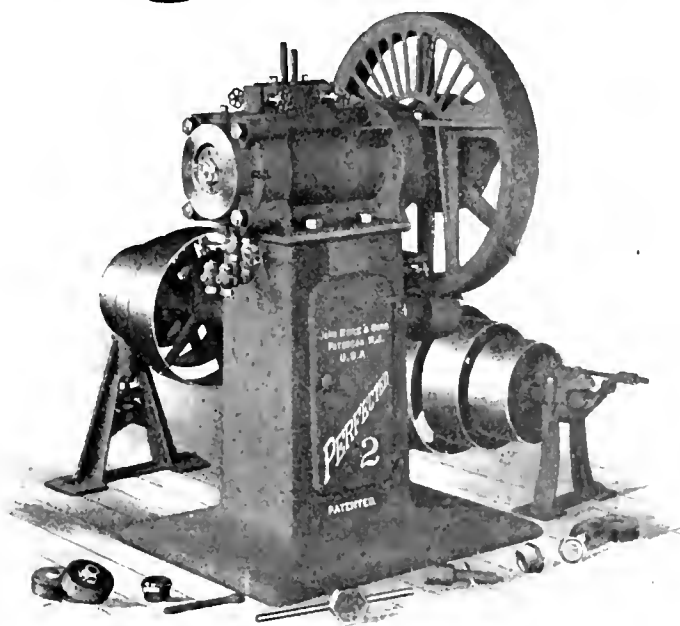
Vol. XXXVI. No. 6.

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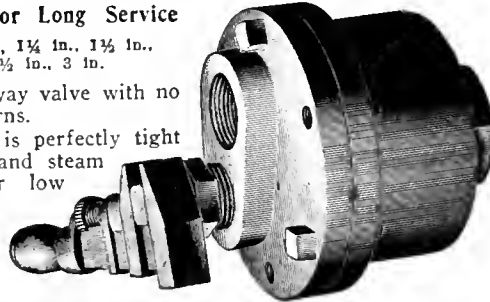
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THE NEW RUBBER FACTORIES.

THE term "rubber factory" is rapidly coming into a new use, which is interesting as indicating a new development in connection with rubber interests. Similarly a new class of "rubber machinery" has lately come into existence. We refer to the plant used, under modern conditions, in the preparation of crude rubber for the market, in substitution for the hand labor which formerly embraced all the processes applied to rubber before it reached the mills where commercial rubber goods are fabricated. The new rubber factory and the new rubber machinery in no sense give to the raw material any of the properties of being "manufactured," in the ordinary sense of the word—they only serve to prepare the raw material in a better manner and more economically than under the old regime.

A newspaper that reaches us from the Far East prints as a matter of course an account of the inauguration of a new "rubber factory" in its locality, attended by a certain amount of ceremony, in the presence of the leading citizens and their families, followed by refreshments and speechmaking. The compliment was paid to some one of being selected to start the 20 H.P. engine which is to supply the power for the various washers, presses, and the like, used for quickly and cheaply converting into merchantable rubber the latex gathered from the planted rubber trees sur-

rounding the factory. The extent of this particular enterprise is indicated by the mention of the 800 employees of the establishment present at the starting of the factory.

We have occupied considerable space already describing and illustrating the extensive rubber factories in Mexico, involving large investments and expensive machinery, and used for extracting rubber from the guayule plant, a new valuable source of rubber which was not commercially available before the invention of these labor saving devices. The promoters of the new Mexican enterprise are becoming interested in the rubber resources of Central Africa, with the idea of introducing the new mechanical processes there. It need surprise no one to hear, within twenty years from the date of Stanley's announcement of the discovery of vast rubber resources on the upper Congo, of the operation of large rubber factories there, giving employment to natives of a type which, in Stanley's time, was devoted mainly to the practice of cannibalism.

The rubber goods manufacturer to-day who wishes cotton fabrics for use in his goods buys the product of certain mills, strictly according to specifications. He may similarly, to a certain extent, buy crude rubber from factories, according to specifications, and it perhaps is not too much to predict that ultimately crude rubber will be bought in any other way.

BELGIUM AND THE CONGO.

THE question of the annexation of the Congo Free State appears now to be under serious consideration by Belgium, and it is probable that this great African rubber region will cease soon to be the private possession of Leopold. It is hardly supposable, however, that he is to make a free gift of it to his country, or that he will retire wholly from the rubber trade. No doubt the agitation over Leopold's administration of Congo affairs has been prompted in part by the monopoly in trading that has prevailed there, and the Congo as a Belgian colony might afford a freer field to outsiders than now exists.

But what would be the real effect upon the "red rubber" business? Will any change of political control render the natives more willing collectors of rubber? The English and American friends of what they term Leopold's slaves complain that the latter are forced against their will to work, and it would be strange if his abdication as ruler should make the natives more industrious. Or it is alleged that the large profits of the trading companies are due to the meager payment made for the rubber. Would traders of other nationalities be so induced to profits as to sacrifice dividends to making themselves rich?

The Congo question is interesting from many points of view, but any change of ownership is likely to be

theoretical rather than practical, for a good while to come, so far as its effect upon the rubber situation is concerned.

A LIBEL ON RUBBER TIRES.

ONE hears now and then a suggestion, for instance, that manufacturers are not producing the best pneumatic tires possible, preferring rather not to have their products last too long, as this would interfere with the sale of more goods. To hear such a suggestion from an outsider is not so surprising, for there always have been people ready to take the most unfavorable view of any situation or question imaginable, but this expression in regard to tires may be heard even in rubber trade circles, which is surprising.

There are innumerable reasons why the majority of tire manufacturers should endeavor to make the best tires possible. First, it is the only honest course; honesty is essential to building up a permanent and growing business, and we take it that the makers of rubber tires, as a class, are as desirous of a lasting success as any other line of manufacturers.

It would be particularly foolish to turn out inferior automobile tires, because the risks involved in the use of poor tires are so great, and the identity of a tire maker usually so clear, that the reputation of a manufacturer in this line is in constant danger if he should sell products below the standard. It is not even safe to sell rotten rubber bands or hot water bags that will not hold water, but several lives may be at risk every time an inferior tire is used, and a fatality from such a cause may be advertised throughout the world.

On the contrary, there are special reasons, apart from those suggested above, why rubber men should make the best tires possible. The financial rewards possible are higher than in most lines of rubber manufacture. A man who may be carrying hundreds of thousands in life insurance, who is in the habit of paying for the best of everything, not questioning the price of an automobile, would hardly object to any figure named as the cost of a set of tires. Here is a most exceptional field for the rubber man to distinguish himself in, in turning out the best goods that he and his working staff are capable of producing.

So much for theory. What is the practice? In the case of every widely advertised automobile event the names of the makers of the tires used are given the utmost publicity—by the makers themselves. Rubber manufacturers exert themselves to the utmost, regardless of cost, to turn out tires that shall in each case excel any competing product. They have contributed in no small degree to the cost of automobile competitions, and these contests, on the other hand, have done much for the tire industry in pointing out to makers wherein their products could be improved.

We are not ready to believe that any tire maker on the

globe is conducting his business on the principle that it is better to sell two poor tires than one good one, or that inferior tires are purposely produced in order to lessen the intervals between sales. If proofs of such practice are available in any quarter they are desired in this office and will receive careful and impartial investigation.

We have heard somewhat similar criticisms of the rubber footwear trade. About once in so often one sees in the newspapers the suggestion that rubber shoes do not begin to have as much rubber in them as formerly. Any such idea is clearly refuted by the unmistakable evidence at hand as to the amount and the quality of the crude rubber bought and used by the rubber shoe industry, and this at prices two and three times as high as the cost of raw material in the good old times.

THE GOOD OLD WORD "RUBBER."

THE name "rubber" as a designation for a certain material with which our readers are presumed to be familiar may be without high scientific warrant, but it has the merit of priority among English speaking peoples, and this fact alone has led to its use becoming more widespread than "caoutchouc" or any other term, whether more scientific or otherwise. The English designation "rubber," as our readers know, referred to a rubber-out of pencil marks before any one thought of the word "eraser," and while some other uses of the elastic material have become more extensive since Priestley's time, the name sticks; it is fairly well understood, it serves its purpose, it is easy to write and speak, and the average man is too busy to consider a new name from any such consideration as that it may be more accurate or more fully descriptive.

The French designation "caoutchouc," based upon a native Indian name up the Amazon, is older. And the Germans to a degree have borrowed the French name, but they also use "gummi" to a great extent. To-day "caoutchouc" is nowhere a word in common use in a rubber producing region except the limited areas under French or German control, and then only by supervisors and not by native workers. The word is in use in French rubber mills and to a slighter extent in the German. Compared with this usage the universal adoption of "rubber" wherever English speaking peoples have to do with the production or consumption of the material, gives this work a vastly greater vogue.

We notice that Continental firms introducing their products into English communities adapt the names of their firms to English practice by taking up the word "rubber," while English firms trading abroad are less apt to follow a corresponding course. Englishmen have been first to introduce rubber goods in many parts of the world, as later they have been first to establish rubber planting on a practical basis, and the persistence of the names of the English (including American) companies alone seems likely to render the word "rubber" ultimately the most widely used term.

AMERICAN WASTE RUBBER TRADE.

THE growth of imports of waste rubber into the United States during the past 20 years has been a matter of common knowledge in the trade, particularly as detailed statistics regarding the same have been available in official statements of American commerce. It may be of interest, however, to have brought together a summary of such imports and of the declared import value from the year when waste rubber first figured separately in the customs returns. These details relate to fiscal years, ending June 30.

AMERICAN IMPORTS OF WASTE RUBBER.

YEAR.	Pounds.	Value.
1890-01.....	488,163	\$19,448
1891-02.....	1,841,786	66,775
1892-03.....	910,543	25,933
1893-04.....	1,774,068	55,893
1894-05.....	2,032,563	63,112
1895-06.....	3,871,077	123,068
1896-07.....	3,653,945	113,722
1897-08.....	9,488,327	339,374
1898-09.....	10,513,004	402,044
1899-00.....	19,093,547	1,249,231
1900-01.....	15,235,236	988,316
1901-02.....	22,804,000	1,437,690
1902-03.....	24,059,394	1,516,137
1903-04.....	20,270,970	1,164,785
1904-05.....	15,575,214	953,439
1905-06.....	24,756,486	1,721,578
1906-07.....	29,335,103	2,608,987

In the first year for which figures are given above, slightly more than 50 per cent. of the waste imported came from Great Britain, 22 per cent. from Germany and 15 per cent. from Canada, with the rest scattering. In the fiscal year 1905-06, Great Britain contributed but 16 per cent. of the whole, Germany 21 per cent., Canada 15 per cent., Russia 32 per cent., and the remaining 16 per cent. mostly from Europe, including large quantities from France and Sweden.

THE exportation of reclaimed rubber has constituted an increasingly important feature of the customs returns for a number of years past, this product going to every country in which rubber factories exist, though recently rubber reclaiming has been carried on extensively abroad. More recently an export trade in waste rubber has also grown up, in larger quantities probably than some in the trade would suppose. Only values of waste rubber exports can be given, for five fiscal years, as follows:

AMERICAN EXPORTS OF WASTE RUBBER.

To—	1901-02.	1902-03.	1903-04.	1904-05.	1905-06.
Great Britain..	\$172,757	\$215,004	\$272,021	\$103,329	\$195,849
Canada.....	143,276	129,216	105,792	41,597	52,747
Germany.....	16,688	19,425	44,696	10,532	28,017
France.....	7,775	13,932	6,495	12,081	23,588
All other.....	32,225	26,100	15,046	37,496	30,300
Total.....	\$392,721	\$404,586	\$534,560	\$204,045	\$339,507

The figures for value of exports of rubber waste for the fiscal year 1906-07 are \$548,095, showing that shipments of this class are not decreasing. Quantities are stated for the first time for this period 4,756,621 pounds. This is almost one-fifth as much as the quantity of imports for the same period.

It has been considered possible, by some in the trade, that the returns of "rubber waste" exported might, for one reason or another, include shipments of "reclaimed rubber." THE INDIA RUBBER WORLD inquired at the customs office in New York on this point, to which it was replied:

This office possessing views similar to those expressed by you concerning the exports of old scrap rubber, held telephonic communication with the shippers before tabulation, in which the question if not "reclaimed rubber" was met with an emphatic denial, and with the assertion that the merchandise was old scrap rubber as described in the manifest.

The same question was laid before the chief of the bureau of statistics at Washington, who communicated with the various collectors of customs, all of whom asserted that the exports through their respective ports had been manifested correctly. Besides, several officials enclosed memoranda from local exporters, who for the most part knew of no rubber scrap exported. A memorandum from Boston stated that the only exports of scrap from there had been made by one company. But while the above details serve to confirm the government statistics, they fail to locate the actual shipments of rubber waste.

* * *

CORRESPONDENCE was then opened with some important houses in the trade, one of the largest of which responded:

We beg to say that we are entirely in the dark in regard to the matters referred to in your letter and therefore regret that we cannot enlighten you.

Another letter ran:

At times there is a better market abroad for some grades than here (New York), and at such times there are no doubt fairly heavy shipments to the Continent. Usually, however, the condition is the reverse of this.

A letter from the English trade said:

To my mind the import of waste rubber from the United States to this country is infinitesimal as compared to our exports to America.

* * *

STILL, waste rubber is exported from the States. One European firm of waste rubber merchants informs THE INDIA RUBBER WORLD that they import from this side 200 to 300 tons per annum, and several other firms known to them buy considerable quantities in America. "What I import mostly from America," says the writer, "are ebonite waste, ebonite turnings, and certain kinds of mechanical rubber waste; sometimes, automobile tire waste also. In fact, I believe there is no grade of rubber scrap which, at one time or another, cannot be bought to advantage on your side and sold in Europe. It is also possible that at times old india-rubber boots and shoes are bought by European mills and reclaimers, but we have only half a dozen mills which use this stock. When the market is low on your side it is not unlikely that some shipments are brought over here."

Still another correspondent expresses the opinion that, while there are certain grades of rubber waste, such as floating stocks and compounded inner tubes, for which there is no sale in America, and which heretofore have had a good sale in Europe, in his opinion the principal export consists of American boots and gloves, which, for reclaiming purposes, are superior to those of European makes.

It may be added that, in the lists of rubber shipments printed in the *India-Rubber Journal*, the Northwestern Rubber Co., Limited, of Liverpool, appear as very large importers of rubber waste, though no indication is given of its source. This is an extensive reclaiming plant, using the same grades of waste as are used in America, and it is possible that their consumption will account for a considerable portion of the scrap exported from the States.

CARE IN HANDLING RUBBER CEMENT.

THE handling of rubber cement in the shoemaking room requires constant care, in order to prevent waste, and to preserve a neat appearance of the premises. A device for keeping cement from being spilled on the floor when taken out of the tank and put into the cement pot by the workmen is described as follows: The tank is put on a sort of platform and boarded up on three sides, leaving one side open for the tank faucet to extend out. This platform has a drawer that pushes under it. This drawer is longer than the platform box, so that when pushed in as far as it will go the cement pot cannot be placed directly under the tank faucet, for this drawer extends out in the way of it. To set the cement pot under the cement faucet, the drawer must be pulled out and the pot set inside of it. Then, if there is any spilling of cement, or any running over out of the tank before the faucet is shut off, it runs into this extended drawer and not on to the floor.

The Insulated Wire Manufacture II.

By a Practical Man.

THE testing department of a large insulated wire factory is a most interesting as well as important place. Here the novice becomes duly impressed with the fact that the drudgery of manufacturing has an occult side. The very sound of "ohm" and "megohm" gives him a creepy sensation. The electrical engineer, however, is generally keenly alive to the importance of his duties. He must put voltage on every coil and try it out for good or ill. To aid him in locating defects he uses a galvanometer. It contains a mirror less than an inch square, which is suspended and adjusted to the mechanism by means of very delicate wires which are sensitive to the slightest variations in the electric current. In front of the galvanometer, a few feet distant, is a scale designed for measuring the megohm resistance of insulation. Through the frame that sustains this scale projects a small tube, so placed that the electric light at one end shines through it directly upon the small mirror described, and is reflected back upon the scale of measurements. When a coil is to be tested it is connected with the galvanometer. Immediately the current is turned on, its delicate mechanism causes the little mirror to turn, and as it turns, the reflected light travels along the scale and tells the operator the megohm resistance. If the coil is sound and strong, the light travels quickly. If the insulation is poor, the light moves slowly and but a short distance.

The galvanometer, together with a lot of arithmetic, enables the operator to figure the exact location of a defect in a wire that has been twisted into a cable. For it must be understood that when a cable is made from a number of insulated wires, each wire, although separately tested, is again tested after having been made a part of it. It is occasionally necessary to tear apart a cable, that repairs may be made, and it is the province and privilege of an electrical engineer to locate the source of the trouble.

Repairing defects in insulation is accomplished by cutting away the rubber at the point where the electric current burned through. The coil is placed upon a drum, and an end of the wire carried to another drum, upon which it is bound as fast as inspected and repaired. The first drum is connected with the system by means of a weak current, and a circuit is established through means of another wire, the end of which the repair man carries in his mouth against his tongue. The wire that is being rapidly unwound passes through his hand, and the instant a defect in the insulation is reached, he receives a slight shock. Upon cutting away the rubber about a defective spot, a strip of thin rubber is wound about the place until, by degrees, it is built up to the outside diameter of the insulation. These patches are then carried in a sectional electric vulcanizer and the wire again tested as described.

Once marked "O K" the wire is ready for immediate use in the telegraph or telephone service, or for various combinations in stranded conductors or cables. For some purposes two or more such wires, before vulcanization, are twisted together and covered with a cotton thread braided on, then run through the tubing machine to receive another cover of insulation, this in turn being covered by a braid of cotton or silk. Orders frequently specify that a number of small wires shall be twisted together before being covered with insulation. They are called "stranded conductors". Such a conductor receives the insulation coat in a tubing machine in precisely the same manner as a single wire. Two such conductors are sometimes twisted together, covered with a cotton braid, and the whole saturated with a waterproof compound. Again, two stranded conductors, insulated and twisted together, have the space between twists, so to say, filled in with a jute yarn or "lateral." This is then covered by a frictional tape, and finally by a cotton braid, duly coated with waterproof-

ing compound. The braided cover for insulated wire serves the double purpose of protecting the rubber cover from injury and imparting a handsome finish. Cotton, silk and other threads are used, in plain white, or brilliant red, greens, yellows, bronzes, and combinations of colors, so applied as to create a figured design in the cover.

The braiding department of an insulating wire factory is an interesting and noisy place, with its hundreds of whirring wheels, and thousands of clicking shuttles. Braided covers are not, however, confined to use of thread. For larger insulation heavy twines, jute and asbestos are used.

This brings us to the consideration of cable manufacture. Cables, by the way, are not necessarily submarine. They are used in underground conduits, and suspended from telegraph poles, in large buildings, shops, battle ships, and numerous other situations. The finished outside diameter of cables ranges from $\frac{1}{2}$ inch to 4 or more inches. One of the most interesting sights in the cable department of an insulating factory is the application of the cover. Cables are frequently made up of uncovered wires, as many as 700-20 B & S being twisted together, and occasionally much larger ones are made. Such a cable is wound upon a large spool and placed in line with the tubing machine. Let us suppose that all preliminaries are completed, i. e., a sufficient quantity of insulating material at hand, the work of centering the metal cable completed, i. e., so adjusting it to the machine as to secure a rubber insulation of even thickness.

The word is given, the machine starts, and the end of the metal cable is thrust into one side of the tubing machine head, to immediately appear upon the other, rubber covered. There is a dignity of movement in the slow unwinding of the great coil, like a huge silver boa constrictor, diving into a hole after its prey, to reappear transformed into one of the great modern world wonders—an electric cable! The steady, forceful on-thrust of this prodigy of the mine and the forest, is impressive. Here is no ordinary job. There must be no mistakes, no mischance, no miscalculation. The "feed" must be "just so," supplies of material continuous and uniform in quality.

Three men are attending to the machine, three more are uncoiling. The foreman, callipers in hand, is everywhere, the soul of expert concern. The cable has now projected its huge bulk along the carrying table where half a dozen men are protecting it against possible abrasion. It is almost scorching hot, hence it is no "cinch" to help it along. It reaches the great steel drum that is to hold it, and slowly, with most delicate care, is helped to make the first turn. In a half hour, perhaps, this part of the work is done. The cable, coil upon coil, suspended in midair, seems a sleeping monster. It is, however, but half completed. Before it is ready for the vulcanizer it must have a strong coat braided about it of hemp, or asbestos, or cotton. This will be covered in turn by waterproof tape, and over that again an armor of galvanized iron wire.

Or, possibly, the specifications call for a cable with an armor of lead. In such case the rubber insulation is first vulcanized and then wound with tape. The lead armor is applied in the following manner: on one side of an hydraulic press with appliances for cable covering stands the smelter. It is elevated above the floor level 3 or 4 feet, so a spout may convey its molten contents to the chamber in the top of the press. This chamber is like a huge cup on the top of the ram, and, in being lifted, receives the end of a steel plunger that exactly fits it. The molten contents, therefore, of the cap must either check the hydraulic pressure, or get out. This latter it promptly does, covering the cable with a thick coat that looks like new silver, as it slowly passes from the press.

The process is to pass the long narrow tank set into the floor, and with water there the wire is wound upon a drum and made ready for shipment. It sometimes occurs, however, that this lead armor is not sufficient, and galvanized iron wire is wound over that, to make assurance doubly sure.

The preceding will, perhaps, convey some idea of the methods used in manufacturing insulated wire. To be thoroughly appreciated, however, like most good things, each process should be seen. It is one of the younger industries to utilize india rubber, but in a few years' time has grown to huge proportions. It has been estimated that the combined output of all concerns in this industry approximates 2,500,000,000 feet annually, or enough insulated wire and cable to go 18 times around this weary world at the latitude whence the rubber comes.

The province of the chemist in this business is, in many respects, unusual. He must be more than a mere chemist—in short, a rubber chemist, a specialist. Success in this field necessitates a wide, practical knowledge of gums, mineral substances, reclaimed rubbers, and the processes through which each passes to make it valuable in insulation. The superintendent has many heart to heart talks with his chemist and must repose the fullest confidence in his acumen. He is called upon to clear up many a deep mystery surrounding the composition of rival insulation, and if the truth were known, many are the times when his best knowledge fails him at a critical point.

The chemist is, however, of the greatest value in disclosing adulterations when they occur in the various minerals used in compounding. He can tell you a whole lot about percentages of resins in new gums, and has assisted materially in the selection of such as are peculiarly suitable for wire insulation. To him are sent samples of all the factory compounds, that the percentage of free sulphur and acetone extract may be of record. He is also interested in the specific gravity of each compounded stock, and knows to what extent a given gum, or mineral, or shoddy, affects its insulation qualities, elasticity and durability. Always he has to keep in mind that compositions that do not make for good insulation are of no value in this business, however great their qualifications in other directions may be. Consequently he favors compounds containing zinc, lime, magnesia, antimony, pentasulphide, etc., because they tend to improve insulation. His laboratory experience makes him acute in diagnosing hard cases.

An illustration: A superintendent went to his chemist, much perturbed because a certain standard stock had, in less than a year's use on wire, shown marked signs of deterioration. Review of the history of the compound checked up all right to a date when a new gum costing somewhat less than that first used had been substituted. Early samples and electrical tests had been satisfactory, but chemical analysis now discovered an unusual percentage of free sulphur in the insulation, and that the new gum contained a large proportion of resin. In view of the fact that the compounder could not have leached his formula on the possible resin in the gum, the chemist suggested that the extra resin had absorbed such a proportion of the sulphur item in the compound as to leave an insufficient quantity for vulcanization; hence it followed that the insulation, being under-vulcanized, lacked the one element necessary to its durability, and "perished" prematurely.

CURRY. British Honduras continues to export an increasing amount of chicle, principally to the United States. After the early shipments for nine years had averaged 318,000 pounds, they rose in 1904 to 773,323 pounds and in 1905 to 1,523,093.

CURRY IN NICARAGUA.—The *Buffalo American* says that the rubber tree grows well in the interior of Nicaragua, and is particularly abundant in the forests on the eastern coast. The tree is known to the natives as "mispero" and by English speaking persons as "mispero tree."

ATTEMPT TO TAX WASTE RUBBER.

AN importation of waste rubber at New York was assessed at 30 per cent *ad valorem*, against which the importer protested, when the United States general appraisers [*Treasury Decisions*, August 1] sustained the protest, admitting the merchandise free. The importation was invoiced as shredded rubber waste. The customs department had held previously that reclaimed rubber, the product of rubber scrap, was dutiable at 30 per cent *ad valorem* as a manufacture of rubber not specially provided for under paragraph 440 of the Tariff act. In the present case the collector decided that certain processes which the merchandise in question had undergone had converted it into an article of manufacture—i. e., reclaimed rubber. But the general appraisers held:

"It needs no argument to show that it was the intent of Congress to make all wornout india-rubber suitable only for use by manufacturers, free as raw material. The testimony in this case shows that the Waste Rubber Co., located in London, England, dealt in wornout articles containing rubber, such as old shoes, galoshes, automobile and bicycle tires, etc., which they assorted (the sorting probably including separating by hand the rubber from fibrous and other extraneous matter) and then ground for convenience of transportation, or, as one of the witnesses—an employe of the exporting firm—testified, to make it more attractive to manufacturers of rubber goods."

It was held to be settled that shippers are entitled, in order to reduce transportation charges on bulky commodities, to reduce such substances to a more condensed form without changing the tariff classification thereof, provided the distinctive name of the goods or their intended purpose of use does not become changed. Regarding this specific importation, the general appraisers ruled: "The merchandise was originally, and has not ceased to be, refuse rubber. It is fit only for remanufacture."

NEW TRADE PUBLICATIONS.

THE RUSSIAN-AMERICAN INDIA RUBBER Co. (St. Peter-burg) have issued this year a new series of lists of their numerous products, embracing practically everything that is made of rubber, soft or hard. This company, established in 1860, has grown steadily until it is considered by many to be the largest in the world in the rubber industry, and it is prepared to supply whatever the Russian market demands in the way of rubber goods. We have before us a general list of the Russian-American goods [7"x10½", 32 pages] in Russian and another copy in German, with a number of separate lists each devoted to some specialty, as tires and accessories, waterproof clothing, etc.

MASSACHUSETTS TALE Co. (Boston) issue to the trade a handsome pamphlet giving a concise description of tale and its uses—particularly in the india-rubber industry—an account of how it is prepared for market, the whole being illustrated by a number of views of the interior of their mill at Zoar, Mass. [9"x6½", 37 pages.]

EMPIRE AUTOMOBILE TIRE Co. (Trenton, New Jersey) describe their automobile tires, inner tubes and repair kits in a very neat booklet. [4½"x8", 15 pages.]

THE DUNLOP PNEUMATIC TYRE Co., LIMITED (London) send us a very complete illustrated catalogue of their motor tyres and tire and motoring accessories, including waterproof garments. The very successful record of Dunlop tires in 1906 is given in some detail. [4½"x7½", 106 pages.]

C. J. BAILEY & Co. (Boston) issue an illustrated catalogue of the large assortment of Waterproof Coats, carried at "Bailey's Rubber Store," No. 22 Boylston street. [3¼" x 6", 24 pages.]

A suggestion which comes from the shoe industry is that a piece of rubber is a good article to have at every bench where colored shoes are made, to take off the wax, or dirt of any kind.

THE STEAM BRUSH CO.

cleaning of carpets by the vacuum process. The advent of the Steam Brush Co., of Wandsworth, London, heralds a greatly increased demand for steam hose. The company, which is removing the grime from prominent buildings in our large towns, uses steam at about 30 pounds pressure from a portable vertical boiler, and considerable lengths of externally armored rubber hose of one inch diameter are used in the distribution of jets.

It is surprising how many people imagine that the common English spelling of this word is to be found in the English dictionaries, whereas the American "tire" is universally given. Londoners who do not read our trade journals have been perplexed by the very prominent gold letter sign of the Hartridge Tire Syndicate in the Strand, London, and I hear of much animated discussion anent the spelling. There can be no doubt that the American spelling is the most correct, and I have not come across any educated person who has tried to prove the contrary.

TYRE VS. TIRE.

From time to time mention has been made in these notes of the progress in the demand for upholstering materials to replace leather. A material which is now being manufactured on a large scale and for which there is a considerable demand is the Methley patent cloth. Works have already been established on the Continent, at Mannheim and Naples, as well as in France and Alsace-Lorraine. A company is now being formed to start the manufacture in England and the United States. India-rubber machinists are interested in the move, as the spreading machine is an important item in the works equipment, and I understand that a large order for modern type machines has recently been placed in England.

LEATHER SUBSTITUTES.

MR. L. H. SWAIN has severed his connection with the Dook-Swain Tyre and Rubber Co., Limited, of Soho Works, Ancoats, Manchester, though his patronymic still remains in the title of the firm, who, it will be remembered, took over the business and premises of the late Wedge Tyre Co.

PERSONAL AND BUSINESS NOTICES.

Mr. W. Coulter, who two years ago was manager of the elastic thread department at the "Prowodink" rubber factory at Riga, and who left Russia during the late disturbance, has recently left England for a post in the spreading department at the Harburg works of the Harburg-Vienna company. For some years Mr. Coulter was in charge of the spreading department at the works of Charles Macintosh & Co., Limited, and some patents he has taken out are in connection with spreading machines.

Mr. J. E. M. Fuller, M.P., the new vice-chamberlain, has a family connection with the rubber trade, as his brother has a large interest in the Avon India Rubber Co., Limited.

A firm who in recent years have made large quantities of rubber heel pads to order for the trade tell me that they have given up this branch, as there is such a very small margin of profit in it. The good class business is all right, they say, but there is comparatively little of this, the bulk of the trade being concerned with low quality material.

Messrs. Claudius Ash & Sons, Limited, the dental supply firm, largely concerned in the newly floated Platinum Corporation, whose company use platinum largely, and desire to be concerned in its production. At the beginning of this year this rare metal was from £5 to £8 per ounce, but recently it has again fallen to its former figure. The high price and market vagaries of the metal are a source of anxiety to all users of it, but so far others have not followed the lead set by the dental firm in becoming concerned in its mining and metallurgy.

The Belgian consul at Manila reports favorably on the beginning which has been made in rubber planting in the Philippines, although as yet it is not large in extent. He mentions a native *Cruciana Philippinensis*, on Mindoro island, as a rubber tree of considerable promise.

THE AMAZON RUBBER MOVEMENT.

THE exports of crude rubber from the Amazon regions during the crop season ending June 30 were, as already reported, the largest on record. The shipments taken into account at Pará (through which port all the Amazonian product passes) exceeded by nearly 5000 tons the figures for 1904-05, which until now has been the banner year. This rubber may be classed as follows, Pará being credited with the quantities actually shipped from there, no matter where produced. The remaining quantities were shipped direct from Manáos, Serpa, and Iquitos, to Europe or New York.

[The Figures Indicate Weights in Kilograms.]

SHIPPED FROM—	New York.	Europe.	Total.
Pará	10,227,206	8,146,221	18,373,517
Manáos and Serpa....	8,407,912	8,432,652	16,840,564
Iquitos (Peru).....	29,415	2,780,165	2,809,580
Total	18,664,623	19,359,038	38,023,661

The shipments credited to Pará are proportionately larger than in some former years, for the reason that the rubber from the Acre district now goes largely to Pará for shipment, instead of being handled at Manáos.

The rubber is classed as to grades as follows:

GRADES.	New York.	Europe.	Total.
Fine	8,070,706	10,090,486	19,079,282
Medium	2,953,517	1,328,945	3,382,462
Coarse	5,048,358	3,225,803	9,174,161
Cucho	1,082,052	4,704,804	6,387,756
Total	18,664,623	19,359,038	38,023,661

The actual export from Manáos and Iquitos between July 1, 1906, and June 30, 1907, differed slightly, of course, from the shipments from Manáos and beyond actually passing Pará between those dates, since several days are consumed by transit down the river. The destination of these shipments was as follows:

New York	8,307,953	kilos
Liverpool	7,003,212	"
Havre, Hamburg, and Antwerp.....	4,053,279	"
Total	19,364,444	"

Manáos shipments include the product of Amazonas state, and rubber in transit from Peru, Bolivia and Venezuela. The details of Iquitos rubber passing Manáos were:

Fine	1,100,753	Cucho	1,081,735
Medium	83,172		
Coarse	469,897	Total	2,825,557

This rubber probably shows a larger proportion of "medium" on being regraded in the consuming markets.

A STORY BY COLONEL COLT.

THE Boston *Globe* says: President Samuel P. Colt, of the United States Rubber Co., was discussing in New York the amicable trade agreement that has been made between his firm and the Intercontinental Rubber Co.

"It is best," he said, "for competitors to agree to be fair and honest with one another, and this agreement of ours is a fair and honest one. It is not like those wherein two rivals, while pretending to be fair, yet knife one another continually in the back. Such hypocritical agreements remind me of two children, two little boys I know.

"They were lurching, Billy and Jack, and when the butler brought on the dessert it was seen that there was only one orange in the fruit basket. Instantly Billy, the larger boy, set up a loud bawling.

"'Now what's the matter?' said the governess. 'What are you crying about, Billy?'

"'I'm crying,' Billy answered, 'because there's no orange for Jack.'"

Progress of Rubber Planting.

ANOTHER SUMATRA RUBBER COMPANY.

NOWHERE is a more lively interest displayed in rubber planting than in Germany, where upwards of twenty plantation companies have been formed already, with investments in the various German colonies, but to a certain extent also in some other localities, including Sumatra, which island has been demonstrated to be well fitted for growing rubber. The Sumatra enterprises, however, though involving German capital, for the most part are organized in Holland. Such a company is the Kant-schuk-Plantage "Aek Tapoes," the object of which is to create a rubber property at Siboga, a town on the west coast of Sumatra, in the province of Tapanoele (or Tapanulu), and on the bay of

the same name. The soils, climate, rainfall and other conditions all appear to be favorable, and there is considerable native *Ficus*. The plan is to develop about 430 hectares [= 1112 acres], planting *Ficus*, *Hevea* and *Mangifera* rubbers. The land is owned by W. J. J. Kehlenbrink, of Rotterdam, who has been growing tobacco in Sumatra for the past seven years. He is being assisted in forming the company by Mr. Laui Spannagel, managing director of the Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken, of Berlin, who for some time past has been identified with other important rubber planting projects. Mr. Spannagel has reported most favorably on the native rubber from Tapanoele province, from trees which will be retained on the property referred to above.

In this connection may be mentioned what probably is the largest rubber tree in the world, a *Ficus elastica* on the estate of the new company. It is supposed to be over 100 years old and has yielded more than 100 kilograms [= 220 pounds] of rubber in a single year. The tree is 60 meters [= 196 feet] high and so large that thirty men with outstretched arms are necessary to encircle it. Mr. Spannagel has christened this the "Kehlenbrink" tree, in honor of the gentleman named above. In the accompanying illustration three natives are shown extracting latex, about one-fourth the height of the tree.

A RUBBER FACTORY OPENING.

THE ceremony of opening the factory of the Sungai Kapar Rubber Co., Limited, in Selangor, Federated Malay States, occurred on June 15, in the presence of a number of ladies and gentlemen. The 20 H.P. oil engine was started by Mrs. K. W. Harrison, the wife of the visiting agent, after which she declared the factory open, when tiffin was served to the guests. The entertainment also included music and, later, dancing by some of the estate employes. The latter, to the number of 80, dressed for the occasion, were also served with refreshments. The coolies had tastefully decorated the factory. The machinery was built by Brown & Davidson, of Ceylon. The Sungai Kapar company, founded in January, 1906, with £110,000 [= \$535,315] capital, and headquarters in Edinburgh, have 1330 acres planted to rubber and are beginning to tap this year.

PLANTING ENTERPRISE IN BORNEO.

RUBBER planting in Borneo has received a decided impetus from the policy of encouragement adopted by the British North Borneo Co., a chartered company having sovereign and territorial rights over the whole of the state of British North Borneo—some 31,000 square miles. This chartered company has granted concessions to tobacco planting, mining and other companies, some of which have proved very profitable, and through whose operations the profits of the chartered company have been greatly enhanced. Recently concessions have been granted on like terms to companies for planting rubber (mainly *Hevea*), a list of which follows, together with capital and planting details reported at the forty-ninth half yearly meeting of the chartered company in London:

British Borneo Para Rubber Co., Limited. Formed April, 1907; offices, Glasgow; capital issued, £25,000; rubber planted, 100 acres.

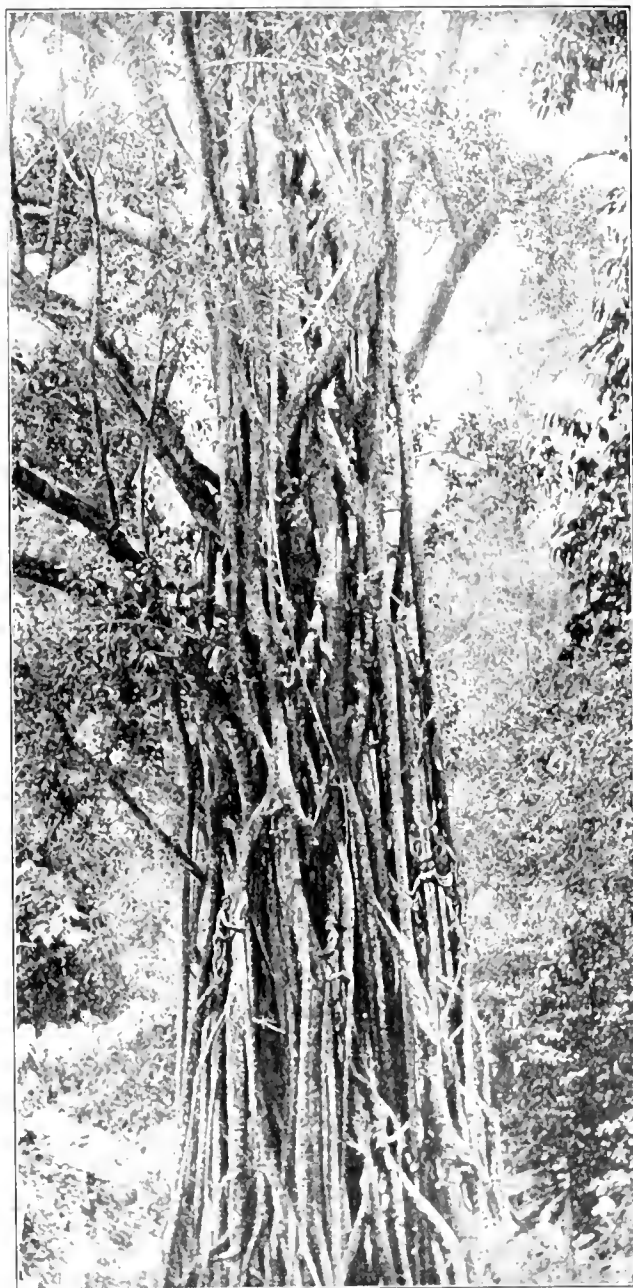
Tenon (Borneo) Rubber Co., Limited. Formed January, 1907; offices, Glasgow; capital subscribed, £14,000; rubber planted, 100 acres.

Manchester North Borneo Rubber Co., Limited. Formed February, 1906; offices, Manchester; capital subscribed, £50,000; rubber planted, 500 acres.

Tanjong North Borneo Rubber Co., Limited. Formed March, 1906; offices, London; capital subscribed, £60,000; rubber planted, 600 acres.

Beaufort Borneo Rubber Co., Limited. Formed April, 1907; offices, London; capital subscribed, £60,000; rubber planted, 100 acres.

The authorized capital of most of the companies is £100,000. The chartered company guarantees dividends for a certain period and will exempt their rubber products from an export tax. The



MAMMOTH RUBBER TREE IN SUMATRA.

A *Ficus elastica*; named the "Kehlenbrink" tree, in honor of its discoverer. Note the three natives gathering rubber, about one-fourth the height of the tree.]



RUBBER TAPPING ON SIKONG ESTATE, BRITISH NORTH BORNEO.
[Property of North Borneo Trading Co., Limited. See THE INDIA RUBBER
WORLD, November 6, 1905, page 48.]

labor support is reported ample, except that the Manchester North Borneo Rubber Co. are recruiting labor from Java. These companies have been formed for planting rubber alone, except that some of them will plant tobacco or other catch crops at the beginning.

The above names do not complete the list of companies planting rubber within the territory of the British North Borneo Co. One or more of the tobacco companies referred to above have granted sub-concessions, so to speak, to companies formed wholly or in part to plant rubber, two of which are the British North Borneo Plantations Co., Limited, and the Sapong Rubber and Tobacco Estates, Limited, both registered in London in April, 1905. Considerable planting has been done by these companies in the aggregate and tapping has been in progress for the past two years. An accompanying illustration relates to tapping rubber on Sikong estate, owned by the North Borneo Trading Co., Limited.

PLANTATION RUBBER IN MEXICO.

"THE steadily increasing amount of the cultivated rubber in the market is making an impression. Karl G. Schweickhardt, agent for Harburger & Stack, of New York, told me that when he opened the office at San Juan Bautista six years ago he bought during the first year but four tons of rubber, that during the past year he bought 104 tons and that the increase was due wholly to the increase of cultivated rubber. He gave me the name of one Mexican planter from whom he received last year 12,000 pounds of rubber, and of several others from whom he received as much as 7000 or 8000 pounds. He himself has purchased land with the intention of planting 100,000 trees."—*Report of J. E. McILHKEY, on Montezuma Plantation.*

A PRACTICAL TAPPING TOOL.

THE U-shaped rubber tapper invented for use on *Castilloa* trees by Virgil S. Smith, the owner of a private rubber plantation at Escuintla, state of Chiapas, Mexico, appears from all accounts to be doing good work. Its use inflicts little injury to the tree, the wounds healing within a short time, whereas the cuts made with the machete require months to heal, and leave the bark scarred permanently. The tapper is easy to use, a peon being able to make four cuts per tree on 80 to 100 trees in a day, finishing before noon, to allow time for coagulation the same day. Mr. Smith finds that more latex is obtained by the use of this tool than with the machete.

The principal feature of the tapper is a thin piece of inch wide steel bent to a U-shape, with slightly flaring edges, and attached at right angles to a wooden handle 20 inches long, and provided with a gage to regulate the depth of cut. Mr. Smith's object is to make the cuts in pairs, terminating at the bottom in a point, at which a cup is placed to receive the latex. Four cuts are made to a tree, preferably not less than 20 inches from the base. It is shown in an accompanying illustration, to-

gether with the manner of holding the tapper when in use. This tool is patented in Mexico (No. 5120, November 30, 1905). The metal parts are made in the United States and attached to the handles on Mr. Smith's plantation. The tappers sell at \$36 (Mex.) per dozen.

Mr. Smith began planting in 1900 and is now tapping trees five, six and seven years old. He has tapped some trees for the third time within 18 months and reports the collection of 8 ounces of dry rubber at each tapping.

THE MEXICAN RUBBER CO., LIMITED.

THE rubber estate "Hacienda La Esperanza," near Tierra Blanca, Vera Cruz, Mexico, mentioned several times in THE INDIA RUBBER WORLD as having been formed by Mr. George Cullen Pearson, is now owned by The Mexican Rubber Co., Limited, of London. Mr. Pearson, who is now residing in England, his native country, was at first managing director of the company, but has been succeeded by Mr. Horace E. Levesley, who has been associated with the management from the beginning.

MALAY RUBBER FIELDS.

THE Anglo-Malay Rubber Co., Limited, in the Malay States, gathered 16,745 pounds of rubber in June this year, against 5717 pounds in the same month in 1906. Their total production last year was 91,710 pounds.

Bukit Rajah Rubber Co., Limited, in the Malay States, have 2012 acres under rubber, including 243,580 trees, in age from one to ten years. There were tapped during the past year 88,341 trees, yielding an average of 1.35 pounds. Last year 31,457 trees yielded an average of 1.02 pounds. The rubber yield for three years has been: 6811 pounds in 1904-05; 33,203 pounds in 1905-06; 148,082 pounds in 1906-07. The dividend for the year ending March 31, 1907, was 30 per cent. on the issued share capital of £66,700. There was a slight income from coffee (which is declining) and coconuts.

Highlands and Lowlands Pará Rubber Co., Limited, report the harvesting of 91,555 pounds of rubber during the first half of this year, against 40,571 pounds for the same period of 1906.



SMITH'S U-SHAPED RUBBER TAPPER.

See page 34 *Castilloa elastica* on the plantation of V. S. Smith, Escuintla, Mexico.]

NEW RUBBER PLANTING COMPANIES.

THE list which follows of new rubber planting companies formed during the first half of 1907 is not complete, but comprises only a few enterprises in regard to which some details are available at this time. The amount of capital stated in their organization papers is nearly \$20,000,000 in American gold, as follows:

	Capital
Ceylon (12 companies).....	\$5,734,359.15
Federated Malay States (8 companies).....	1,864,670.50
South India (3 companies).....	981,310.00
Sumatra (6 companies).....	3,267,200.00
Java (1 company).....	170,327.00
Borneo (1 company).....	480,050.00
Total (31 companies).....	\$12,609,372.15

In some cases these companies have been formed to create new plantations, in others to acquire rubber estates already more or less developed. The companies of the latter class, however, nearly all purpose to plant additional rubber. The new companies in the list, therefore, may be expected, in the near future, to extend very materially the existing acreage of rubber under cultivation.

CEYLON.

Udabage Tea and Rubber Co., Limited, floated in Ceylon early in 1907. Capital, 1,000,000 rupees [= \$342,433.33 gold]. To acquire Udabage estate, Kegalle district, of about 1,626 acres, of which 500 in tea, 505 in rubber and 400 cleared for planting rubber. Purchase price, 500,000 rupees—four-sevenths in shares.

Udakelle Rubber Co., Limited. Gazetted Colombo February 1, 1907. Capital, 750,000 rupees [= \$243,325].

Kegalle Rubber Co., Limited. Gazetted Colombo February 1, 1907. Capital, 450,000 rupees [= \$145,095].

Aranayake Rubber Estates Co., Limited. Gazetted Colombo February 8, 1907. Capital, 300,000 rupees [= \$97,336].

The Passara Tea and Rubber Co., Limited. Formed in Ceylon in February, 1907. Capital, 500,000 rupees [= \$162,216.66].

P. P. K. (Ceylon) Rubber Estates, Limited. Registered London February 19, 1907. Capital, £65,000.

Korossa (Ceylon) Rubber Co., Limited. Gazetted Colombo March 8, 1907. Capital, 500,000 rupees [= \$162,216.66]. In the Kegalle district.

Sunderland (Ceylon) Rubber Co., Limited. Gazetted Colombo March 8, 1907. Capital, 450,000 rupees [= \$145,095]. Kelani Valley.

Lunuva (Ceylon) Tea and Rubber Estates, Limited. Registered London April 19, 1907. Capital, £150,000. To acquire certain estates in Ceylon and grow tea and rubber.

Parambe Rubber and Tea Co. of Ceylon, Limited. Registered London May 8, 1907. Capital, £10,000.

The Galphede Tea and Rubber Estates, Limited. Registered London June 18, 1907. Capital, £60,000. In Wattegama district.

Rosehaugh Tea and Rubber Co., Limited. Registered Edinburgh June 21, 1907. Capital, £600,000. To acquire estates in Ceylon and the Federated Malay States.

FEDERATED MALAY STATES.

Strathmore Rubber Co., Limited. Registered Edinburgh January 8, 1907. Capital, £25,000. To plant in Selangor.

The Seafield Rubber Co., Limited. Registered London February 7, 1907. Capital, £100,000. To acquire Seafield rubber estate in Selangor, for £64,000; 1,224 acres planted to rubber.

The Labu (F. M. S.) Rubber Co., Limited. Registered London February 9, 1907. Capital, £100,000. To acquire Batang Labu estate, in Negri Sembilan. This year 500 trees will be tapped.

Kuang (Selangor) Rubber Co., Limited. Registered London March 7, 1907. Capital, £20,000.

Bukit Lintang Rubber Estates, Limited. Registered Edinburgh April 8, 1907. Capital, £25,000.

Chamberlain Rubber Co., Limited. Registered London July 17, 1907. Capital, £25,000. To acquire rubber estate in Selangor, for £12,000; 1,224 acres planted to rubber. Sengul Joog Rubber Co., Limited. Registered London July 16, 1907. Capital, £75,000. To acquire rubber estate in Selangor, for £12,000; 1,224 acres planted to rubber.

SELANGOR.
The Travancore Rubber Co., Limited. Registered London January 2, 1907. Capital, £25,000. To acquire rubber estate in Selangor, for £12,000; 1,224 acres planted to rubber. Central Travancore Rubber Co., Limited. Registered London February 7, 1907. Capital, £25,000. To acquire rubber estate in Selangor, for £12,000; 1,224 acres planted to rubber. Dunbar Rubber Co., Limited. Registered London March 1, 1907. Capital, £50,000. To acquire rubber estate in Selangor, for £12,000; 1,224 acres planted to rubber.

SUMATRA.

The Tandjong Rubber Co., Limited. Registered London March 1, 1907. Capital, £100,000. To acquire the Tandjong Kassan estate, of 8,400 acres, in eastern Sumatra.

Sumatra Para Rubber Plantations, Limited. Registered London March 18, 1907. Capital, £100,000, of which £50,000 offered for public subscription. To acquire the Pangkajene estate, now producing rubber and coffee, in Bila, Sumatra. Rubber yield 13,420 pounds in 1906.

Sumatra Caoutchouc Maatschappij. Gazetted in Holland June 27, 1907. Capital, 750,000 florins [= \$301,500]. The Societe Anonyme Belge pour le Commerce du Haut Congo takes 100,000 florins of stock.

United Serdang (Sumatra) Rubber Plantations, Limited. Registered London July 10, 1907. Capital, £170,000, of which £60,000 offered for subscription. To consolidate Begirpang and Namoe Rambai estates, on which about 2,748 acres are planted to rubber—42,225 "rambong" and 200,000 Para rubber trees.

Sumatra Caoutchouc Plantagen Maatschappij (Societe des Plantations de Caoutchouc de Sumatra). Gazetted in Holland July 10, 1907. Capital, 1,000,000 florins [= \$402,000].

Sumatra-Deli Rubber Estates, Limited. Registered London July 17, 1907. Capital, £210,000. To acquire Laut Labor and Mendarai plantations, in eastern Sumatra, on which are over 350,000 rubber trees (*Ficus elastica*), some of which are now being tapped.

JAVA.

The Sino Rubber Estates, Limited. Registered London June 4, 1907. Capital, £35,000. To acquire the Sino group of estates, from a Dutch company.

BORNEO.

Beaufort Borneo Rubber Co., Limited. Registered April 22, 1907. Capital, £100,000. To acquire lands from The British North Borneo Co. and plant 1,500 acres to rubber.

RUBBER ON THE LONDON STOCK EXCHANGE.

SHARES of the companies named below have been listed lately on the London Stock Exchange to the amount (at part) named in each case:

Highlands and Lowlands Para Rubber Co., Limited, £241,454 additional.
Imperial Ethiopian Rubber Co., Limited, £12,000.
Imburi Para Rubber Estates, Limited, £1,000,000.
Liberian Rubber Corporation, Limited, £100,000.
Madira Forest (Uganda) Rubber Co., Limited, £25,000.
Sponge Rubber and Tobacco Estates, Limited, £31,750.
Strait Settlements (Bartram) Rubber Co., Limited, £25,000.
Sumatra Para Rubber Plantations Co., Limited, £30,000.

The *London Notes* (July 26) report that rubber shares the public are at length taking an active interest in, and a large number of shares of all descriptions have been bought by investors.

A Pioneer in the Guayule Field.

It was early in 1904 that Captain Felix H. Hunicke, a retired naval officer, went from the United States to the uplands of Mexico to look into the question of producing guayule rubber commercially. In spite of the many processes attempted up to that time it had been found impossible to turn out the rubber on a large scale, and it was this problem that Captain Hunicke was called upon to solve. His own story of the manner in which he accomplished it is interesting.

He was out in the desert with an Indian guide when the latter pulled up a shrub and handed it to the captain, remarking that that was the rubber bush; to which the other said: "How do you know?" The Indian indignantly sliced off some of the bark and after chewing it for a few minutes handed to the inquirer a small pellet of rubber. Captain Hunicke was at once impressed with the idea that some such simple process, embracing grinding and water separation might solve the whole problem. He at once went at work on this idea and by using crude machinery which he built himself, was able in a short time to ship a good hard sample of several pounds to New York. Then a little later came the erection of the huge mill of the Continental-Mexican Rubber Co. at Torreon, which is to-day the largest rubber expressing plant in the world.

Considering the fact that the first experimental shipment went forward in January, 1905, and that now the monthly product of the factory is 600,000 pounds, the results attained may be called marvelous. An interesting feature of the case is that he made machinery carry out nature's own process in separating the rubber from the fiber. None the less, however, should he have full credit for a most remarkable achievement and one that has been of great benefit to the whole rubber trade.

It is because of this success that a sketch of the man himself is timely and interesting. Felix H. Hunicke was born in St. Louis in 1860 and attended the public schools in that city until he was eleven years old, when his parents sent him to Germany, where he remained in school for two years. He returned to St. Louis and took a high school course, after which he went to the United States Naval Academy at Annapolis, where he graduated with honors. He then entered as a midshipman in the United States Navy, remaining for two years at sea, but resigned in 1883 to enter business with his father in St. Louis. He continued with his father's firm for four years, and on the death of the latter went into the same business, in which he continued for some nine years. Selling it out in 1898, at the time of the war with Spain, he re-entered the navy as a volunteer officer, being attached to the United States gunboat *Hist*, on which vessel he was second in command. He served for ten months on this vessel which, incidentally, was in more engagements than any other patrolling the Cuban coast.

At the close of the war, Captain (then Lieutenant) Hunicke received several special service medals and was appointed the chief of the revenue cutter service for Cuba, which position he filled with distinguished ability during the American occupation of three years. When the American forces were finally withdrawn he received a flattering offer to remain in Cuba, but as he was not becoming a citizen of the little republic, he declined

it. He also had an opportunity to go to the Philippines for the United States government, but refused that as well. It was at this juncture that he associated himself with the gentlemen who later organized the Continental Rubber Co., and was able by his practical and common sense methods to turn what at one time looked like a failure into a conspicuous success.

Perhaps no man in the Americas has studied the question of the mechanical extraction of rubber from the minor producers more diligently than has the subject of this sketch. Central and South America, Africa, India, and the islands of the Pacific have all come under his ken, and his knowledge, geographical and botanical, along the lines of his specialty is very broad. If the work he has done in Mexico is to be duplicated in Africa, Captain Hunicke evidently is the man to do it.

GUAYULE TRADE NOTES.

TORREON will become a city under a decree of the legislature of the state of Coahuila to be promulgated on September 15. Torreon was only a group of huts 20 years ago—a flag station on the Mexican Central railway. Its progress has been rapid, and it seems destined to be one of the most important cities in northern Mexico. One of its claims to present importance is that it is a center of the guayule rubber interest.

The *Mexican Herald* reports: "A gentleman who lives in Torreon and who was one of the first to discover the value of the guayule shrub, states that a number of the large landholders would begin at once to plant guayule from the seed, as lands that are absolutely worthless for many purposes would be most valuable for the raising of guayule, especially those lands that are rocky."

Exports of guayule rubber from Torreon, Mexico, during the first 26 days of July amounted in value to \$376,357.77 (Mex.).

The Mexican Crude Rubber Co. announce a 2 per cent quarterly dividend for September 1. Their guayule factory, now building at Cedral, is expected to be

in operation by October 1, and one of their two factories at Viesca is to be enlarged this fall, when their capacity will be 80 tons of guayule per month. The shipments are reported as follows: December, 1906, 20 tons; January, 1907, 25 tons; February, 30; March, 35; April, 45; May, 55; June, 55 tons. The company operates the guayule branch of the Coahuila Mining and Smelting Co., Limited, of Viesca, Mexico. Their offices in the United States are at Detroit, Michigan. They operate under the patents of Ferdinand Ephraim.

TO RENDER GAS TUBING ODORLESS.—It is said that the giving off of disagreeable odor by rubber tubes which have for a time been used in conducting illuminating gas may be prevented by treating them, previous to use, as follows: Mix equal volumes of 36 per cent. alcohol and linseed oil, shaking the mixture well until homogeneous, moderately stretch the tube, and apply the mixture by putting a few drops on a small rag, and rubbing until the surface is quite dry. Repeat the application three or four times, at intervals of a few days.—*Druggists' Circular*.



FELIX HERMANN HUNICKE.

(Connected with the Continental Rubber Co., engaged in the guayule interest.)

RUBBER AIR CUSHION RECEIVER CAPS.

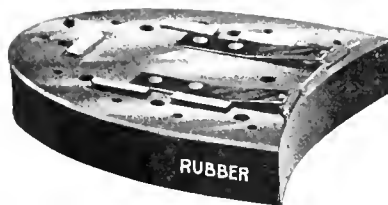
The rubber air cushion receiver caps, for telephone receivers, shown in the illustration, are a genuine comfort, the rubber being so much softer than the bare, hard rubber shell that they are designed to cover. Moreover, they are greatly in keeping with the distracting noises so commonly heard in the office. Not many places of business are these cushions becoming a part of the office fixtures, but in the telephone offices themselves are they used extensively on the headband receivers for switchboards, where the receiver is held to the ear by a steel band. A device of this sort, while it adds greatly to comfort, is also going to prove a time saver in serving to lessen the annoyance of repetition, which so often has to be demanded where there is much commotion. [The Holtzer-Cabot Electric Co., Brookline, Massachusetts.]



RUBBER AIR-CUSHION RECEIVER CAPS

INTERCHANGEABLE RUBBER HEEL.

A NEW article at once simple, convenient, and desirable is the Colditz Interchangeable Top Lift and Rubber Heel. Owners of shoe repair shops have estimated that the average pair of boots or shoes is repaired three times at the heel, which adds from \$1 to \$1.50 to the original cost of the shoe. Extra lifts purchased with the shoes are less expensive than cobblers' charges, and the economy of the Colditz device is enhanced by the fact that it makes possible an exchange from the left



COLDITZ INTERCHANGEABLE HEEL.

shoe to the right when worn on the side, so that the wear is equalized. The interchangeable device consists of two corresponding plates, of which one has a spring that interlocks itself when adjusted in place to keep the heel from displacement. It is released by inserting a pin through a small aperture, and is made of such a design that it is closed entirely when in position. When thus in position no projecting parts are shown, all being enclosed in the leather. Those who do not like rubber heels because of their noiseless walk, and others who consider them dangerous after they become worn, may be interested to know that by this attachment the leather lift may be placed outside of the rubber, and any objectionable features removed. [H. M. Colditz, P. O. Box 1578, Boston.]



COLDITZ INTERCHANGEABLE HEEL.

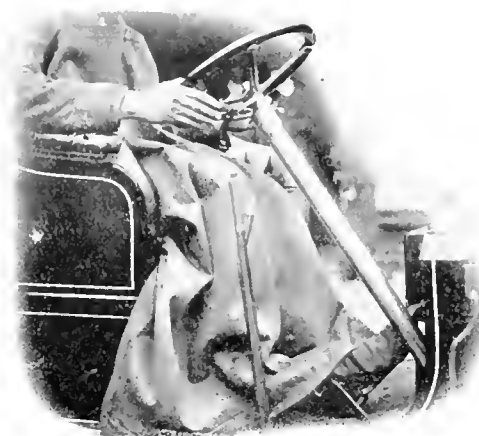


COLDITZ INTERCHANGEABLE HEEL.

shoe to the right when worn on the side, so that the wear is equalized. The interchangeable device consists of two corresponding plates, of which one has a spring that interlocks itself when adjusted in place to keep the heel from displacement. It is released by inserting a pin through a small aperture, and is made of such a design that it is closed entirely when in position. When thus in position no projecting parts are shown, all being enclosed in the leather. Those who do not like rubber heels because of their noiseless walk, and others who consider them dangerous after they become worn, may be interested to know that by this attachment the leather lift may be placed outside of the rubber, and any objectionable features removed. [H. M. Colditz, P. O. Box 1578, Boston.]

THE "IDEAL" ROBE.

THIS robe, designed for the auto driver, appears to have many advantages. In the first place, it has a separate place for each foot and is so constructed that the foot levers can be used while the robe is worn without the slightest impediment to dexterity of movement. This, too, is done in full view of the driver. When it becomes necessary to remove the robe the operation is instantaneous, there being no possibility of entanglements. Be-



"IDEAL" MOTOR LAP ROBE.

sides using the lever with perfect ease, the operator can walk in the robe, if he so desires, there being ample leg play. The sensation of slipping, so often felt when one is wrapped in a robe, is averted, as the strap attached can be fastened around the waist. Protection for the feet is assured by rubber soles, or foot bottoms. As it is made in one piece it is impossible for wind and water to get under it. The robe can be made in colors to match the car; those kept in stock are plain black rubber cloth, check back rubber cloth, tan color mackintosh, imitation leather, green face, drill back and cloth with check back, waterproof. [Louis Dusenbury, Nos. 306-308 Broadway, New York.]

RUBBER REELING AND ROD GRIP.

ALL good fishermen are on the alert for the best equipment, and they have the reputation generally of knowing a good thing when they see it. Perhaps this acumen comes in part from studying the habits of their funny brothers—perhaps not; at any rate, there are lessons to be learned from the elusive inhabitants of the water, for those who are willing to learn. But about the grip; the bait caster will be interested in this new attachable, corrugated, elastic rubber



"COLLER" RUBBER GRIP.



GRIP ATTACHED TO ROD.

affair. It will stretch to fit any steel or wood bait casting rod, requiring no glue or cement, and can be placed on the rod in three seconds. It is as soft as a glove to the hand and at the same time affords a vise like grip. When on the rod it is 1 by 3/4 inches. It is made in dark gray and red soft rubber. [The Collier Rubber Grip Co., Coldwater, Michigan.]

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JULY 23, 1907.

NO. 858,484. Machine for making tires. H. C. Base, Swanton, N. Y., assignor to W. H. H. Co., Pittsburgh, Pa.

858,484. Manufacture of insulating tubes.
858,485. Method of making insulating tubes.
858,486. Apparatus for manufacturing insulating tubes.
858,487. Tube-making machine. [Inventor's name not given.]
858,489. Machine for making insulating tubes.
858,490. Apparatus for vulcanizing rubber goods [particularly pneumatic tires]. F. Miegley, Hartford, Conn.

858,494. Fire protector. F. B. Simpson, New York city.
858,498. Spare tire case. A. H. Kunder, Kiskadee, Ind., assignor to F. B. Hopewell, Newton, Mass.

858,499. Cushion tire wheel. J. M. Davidson, Pittsburgh, Pa.
858,499. Nasal douche. F. J. Lamport, Cape Town, Cape Colony.
858,500. Heel. F. Gindler, Biddford, Me.
858,501. Pneumatic cleaner. A. Richter, Grenchen, France.
858,503. Hose holder. C. E. Lindsay, Spokane, Wash.
858,508. Heating pad [with pocket of rubber cloth for enclosing the jacket and its contents]. J. F. Alston, assignor to C. R. Judice, both of St. Louis.

858,517. Spring wheel [with rubber tire]. F. F. Morgan, St. Louis.
858,509. Spare tire holder. C. W. Warren, Middletown, Conn.
858,510. Apparatus for motor vehicle wheels to prevent skidding and side slip. W. H. Elam, Andover, assignor of one-half to F. T. Ellis, Croydon, England.

858,505. Waterproof stocking [of cotton, rubber and wool layers]. J. L. Mullen, Pittsburgh, Pa.

858,512. Rollers for belt conveyors. F. J. Mason, assignor to Heyl & Patterson, Inc., Pittsburgh, Pa.

858,509. Belt guide and shutter. R. J. Lee, Panama, Ill.

858,575. Hose coupling. C. A. Claffin, Malden, Mass.

858,565. Overshoe. N. P. Bowler, Cleveland, O.

858,550. Hot water bag or bottle. R. A. Whall, Reading, Mass., assignor of one-half to Metropolitan Air Goods Co.

859,047. Stopper for hot water bags. G. W. Clayton, Manassas, W. Va.

859,157. Chloroform dropper. B. A. Warren, La Salle, Ill.

859,124. Method of ornamenting candy. [Involving a rubber bulb.] H. L. Short, New York city, assignor to Eureka Mfg. Co.

859,125. Method of ornamenting candy. *Same.*

859,110. Machine for winding balls. [Relating to golf balls.] A. T. and G. H. Saunders, Akron, Ohio.

859,091. Battery cell. A. H. Marks, Akron, Ohio.

859,067. Woven fabric [for suspenders and the like]. V. H. Jennings, assignor to Mills Woven Cartridge Belt Co., both of Worcester, Mass.

859,060. Tire. [Composed of transversely arranged sections of rubber and leather, and a covering for the sections, said covering being vulcanized to the rubber sections.] F. Kempshall, assignor to Kempshall Tire Co., both of Boston.

859,070. Tire. *Same.*

859,071. Tire. *Same.*

859,072. Tire. *Same.*

859,073. Tire. F. Kempshall, Boston.

859,074. Arm for tire. *Same.*

859,075. Tire. F. Kempshall, assignor to Kempshall Tire Co., both of Boston.

859,076. Composite tire section. *Same.*

859,077. Method of making tires. *Same.*

859,078. Tire. *Same.*

859,079. Method of making tires. *Same.*

859,066. Anchor packer. C. M. Hester, Butler, Pa.

859,010. Machine for winding a wire or other protector around a flexible hose pipe. J. Harris, Kensington, Victoria.

Trade Mark.

27,727. Shawmut Tire Co., Boston. The word *Shawmut*. For vehicle tires.

ISSUED JULY 9, 1907.

859,236. Air brake hose coupling. C. Maier and F. Sanfod, Jersey City, N. J.

859,253. Packing. C. Restein, Philadelphia.

859,254. Cow milker. J. Ripezinski, Wausau, Wis.

859,378. Ball. [Toy.] C. R. Fleischman, Chicago.

859,510. Driving belt and rope. [Fabric treated with caoutchouc and other materials.] Bruno Reichelt, assignor to Challenge Belt Co., Hoboken, N. J.

859,533. Vaginal syringe. J. Wallace, assignor of one-half to W. J. Smith, both of Providence, R. I.

859,534. Rubber shoe. [Inventor's name not given.]

859,539. Tire. [Inventor's name not given.]

859,540. Cushion tire. [Inventor's name not given.]

859,541. Wheel. [Inventor's name not given.]

859,542. Tire. [Inventor's name not given.]

859,543. Tire. [Inventor's name not given.]

859,544. Tire. [Inventor's name not given.]

859,545. Tire. [Inventor's name not given.]

859,546. Tire. [Inventor's name not given.]

859,547. Tire. [Inventor's name not given.]

859,548. Tire. [Inventor's name not given.]

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859,567. Tire. [Inventor's name not given.]

859,568. Tire. [Inventor's name not given.]

859,569. Tire. [Inventor's name not given.]

859,570. Tire. [Inventor's name not given.]

859,571. Tire. [Inventor's name not given.]

859,572. Tire. [Inventor's name not given.]

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859,577. Tire. [Inventor's name not given.]

859,578. Tire. [Inventor's name not given.]

859,579. Tire. [Inventor's name not given.]

859,580. Tire. [Inventor's name not given.]

859,581. Tire. [Inventor's name not given.]

ISSUED JULY 16, 1907.

859,036. Gravity hose coupling. F. L. Gold, New York city.

860,003. Means for indicating the deflation of tires. Harry B. Williams, New York city.

860,054. Hose nozzle. George Pecover, Colorado Springs, Colo.

860,133. Wheel [with flexible tube around the hub and means at the rim for holding a cushion tire]. J. Hipsley, Trenton, N. J.

860,136. Life saving garment. T. E. Hoyt, Seattle, Wash.

860,263. Apparatus for molding crescent fillers for tires. W. T. Stearns, Batavia, N. Y.

860,445. Lawn sprinkler. C. C. Cheney, San Jose, Cal.

860,529. Hose coupling. C. C. Corlew, Fresno, assignor of one-half to L. A. Spencer, Oakland, Cal.

860,555. Dental syringe attachment. W. C. Midlaugh, Easton, Pa.

860,589. Game ball. S. E. Wharton, Everett, Wash.

860,591. Utensil supporter. W. T. Baird, El Paso, Tex.

Trade Mark.

26,854. Inter State Rubber Co., Omaha, Neb. The word *Chief*, under the head of an Indian.

ISSUED JULY 23, 1907.

860,050. Rotary packing device. F. L. Gregory, Chicago, assignor to Gregory Rotary Packing Co.

860,720. Manufacture of packing. [Relates to the winding of rubber, canvas, and other material into cylindrical form.] L. E. Adams, Philadelphia.

860,743. Vacuum receptacle cover. [With edges of elastic packing material.] W. Haaker, Verona, N. J.

860,751. Vulcanized fibrous composition. [An artificial leather composed of scrap rubber, scrap leather, and the like.] J. W. Kumpf, Danvers, Mass.

860,891. Supportive and retaining means for tires. W. A. Allen, New York city.

860,468. Water bottle stopper. M. C. Schweibert, West Hoboken, N. J., and H. P. Kraft, New York city.

860,115. Combined lost form and arm pad. Dora Harrison, Lansing, Mich.

- 6,127. Packing for pump, etc. (see 6,126). [A series of flexible balls.] E. M. Kleckner, Carey, Ky.
- 58,348. Billiard cushion. O. F. South, Ohio. 20.
- Trans. Marit.*
489. The Diamond Rubber Co., Akron, Ohio. The letter *D* enclosed in a diamond shaped border, on either side of a *flam-belle*. For gaskets, packing, hose, and the like.
- 6,141. The Diamond Rubber Co., Akron, Ohio. The letter *D*, enclosed in a diamond shaped border, on either side of a *flam-belle*, all the details differing somewhat from those in No. 48,489. For tires and other rubber goods.
- 58,375. Pequanoe Rubber Co., Butler, N. J. The word *Imperial*. For reclaimed rubber.
- 58,373. Pequanoe Rubber Co., Butler, N. J. The word *Crown*. For reclaimed rubber.
- 58,374. Pequanoe Rubber Co., Butler, N. J. The word *Rex*. For reclaimed rubber.
- 58,399. Pequanoe Rubber Co., Butler, N. J. The head of an Indian. For reclaimed rubber.

GREAT BRITAIN AND IRELAND. PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1906.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 26, 1907.]

- 5,308 (1906). Pneumatic tire, with puncture preventing hoop of steel. A. Hewer, Bootle.
- 5,311 (1906). Detachable tire carrying rim. M. A. Lemerrier, Paris, France.
- *5,363 (1906). Supporting device for conveyor belts. A. J. Boulton, London. (C. H. Anderson, Chicago, Illinois.)
- 5,356 (1906). Pneumatic tire with non skidding rivets or studs. Continental Gummifabrik und Guttapercha-Fabrik, Hanover, Germany.
- 5,402 (1906). Draught excluder for doors. R. Schwartz, London.
- *5,421 (1906). Paint spraying device. L. Walkup, Rockford, Illinois.
- *5,466 (1906). Pneumatic tire with incorporated knitted fabric. H. T. Braue, Yonkers, New York.
- 5,486 (1906). Rubber articles, as tire treads, made from vulcanized rubber waste by submitting the finely powdered material to great pressure in heated molds. Michelin et Cie., Clermont Ferrand, France.
- 5,487 (1906). Pneumatic tire with non skidding studs. A. D. Shuter, Hampstead.
- 5,575 (1906). Rim center of vulcanite or the like. A. Morelle, London.
- 5,586 (1906). Troughing rollers for conveyor belts. W. Hepburn, of E. Reddaway & Co., Ltd., Manchester.
- 5,633A (1906). Solid rubber tire, with the base strongly compressed. T. B., A. G., and G. P. Marchant, London.
- 5,668 (1906). Horseshoe treads. I. Rottkamp, Cologne, Germany.
- 5,677 (1906). Building up of covers for pneumatic cushions for vehicle wheels. A. F. Hawkesley, Fairhaven.
- 5,681 (1906). Non slipping device for pneumatic tires. W. T. G. Ellis, Glasgow.
- 5,735 (1906). Detachable tire carrying hollow rim. C. W. Griffiths, London.
- *5,752 (1906). Spring tire of metallic sections, with rubber tread. W. J. Paton, Kansas City, Missouri.
- 5,771 (1906). Teat cup for cow milking machine. A. Gillies, Victoria, Australia.
- *5,791 (1906). Pneumatic pulsator for cow milking machines. D. Klein, West Chester, Pennsylvania.
- *5,792 (1906). Rubber plug and nipple for bottles, to render them non refillable. A. A. Boschelli, Harrisburg, Pennsylvania.
- 5,789 (1906). Non slipping tread for pneumatic tires. A. Ménégaud, Arcueil (Seine), France.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 3, 1907.]
- 5,901 (1906). Golf club heads filled with rubber. G. Leeh, King's Lynn, Norfolk.
- 5,906 (1906). Chain non slipping device for pneumatic tires. J. Cummins, Scotland.
- 6,075 (1906). Pneumatic tire with woven wire layers between the inner tube and cover. W. Harrison, Carlisle.
- 6,133 (1906). Bottle cap stopper with rubber ring. J. O. Comrie, Glasgow.
- 6,183 (1906). Preservative composition for rubber goods. [Mixture of albumen, gelatine, glycerine, and glyceryl triacetate; for application to each builder's varnish, and the like.] E. Gramer, Paris, and E. L. Froger-Delabrière, Grasse, France.
- 6,064 (1906). Pneumatic tire with compound chain for protective purposes. A. Watkinson, West Kensington.
- *6,099 (1906). Apparatus for detecting defects in the insulation of wires. A. J. Boulton, London. (S. W. Wardwell, Providence, Rhode Island.)
- *6,097 (1907). Controlling device for coiling and unwinding insulated wire. A. J. Boulton, London. (S. W. Wardwell, Providence, Rhode Island.)
- 6,094 (1906). Cow milking machine. W. Clark, London. (Hydraulic Hand Milker Co., Wellington, New Zealand.)

- 6,202 (1906). Pneumatic tire rendered non slippable by studs or belts. S. Butler, Bristol.
- 6,254 (1906). Tire composed of a number of separate rubber blocks, supporting renewable studded leather pads. G. H. Mann, Leeds.
- 6,301 (1906). Composite solid and cushion tire, adaptable to any rim. T. Lawson, Carlisle.
- 6,381 (1906). Solid tire, with rim having a detachable flange. J. A. Laeson, T. C. Bentz, and R. A. L. Lehmann, Amsterdam, Holland.
- 6,427 (1906). Pneumatic tire with puncture preventing band of canes imbedded in rubber. F. J. Harden, Barnes, Surrey.
- 6,415 (1906). Sound insulators for railway and motor cars, composed of waterproofed felt in alternate layers with rubber sheets or rubber waste. C. A. McKerrow, Manchester, and two others.
- 6,417 (1906). Air tube for pneumatic tires, with closed ends. J. E. Rogers, Smethwick, near Birmingham.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JULY 17, 1907.]

- 6,535 (1906). Portable bridge supported on rubber pontoons. H. Kaiser, Essen-West, Germany.
- 6,560 (1906). Pneumatic tire with automatic indicator of deflation. E. B. Waggett, London, and another.
- *6,576 (1906). Vacuum cleaning apparatus. F. Golby, London. (C. L. Nichols and A. D. King, San Francisco, California.)
- 6,623 (1906). Motor tire of steel springs in a canvas sleeve, with rubber cover. F. A. W. Bode, London.
- 6,664 (1906). Waterproof lining for leather boots. H. F. Karth, Hamburg, Germany.
- *6,684 (1906). Artificial limb, with cover of rubber and fabric. J. K. S. Farris, Saltville, Virginia.
- 6,711 (1906). Respirator for firemen's dress. R. K. Catt, Melbourne, Australia.
- *6,811 (1906). Hernial truss. F. Serio, New York.
- 6,862 (1906). Pneumatic tire with studded tread band. H. Renaud and J. MacGuinness, Suresnes, France.
- 6,886 (1906). Brushes for motor buses, to prevent tire slipping. A. and G. Lutz, London.
- 6,883 (1906). Horseshoe tread. L. Wolff, Düsseldorf, Germany.
- 6,887 (1906). Tire distended by means of liquid material. T. Gane, New Brighton.
- 6,973 (1906). Pneumatic tire with chrome leather studded band. J. Scott, West Hartlepool.
- 7,017 (1906). Vehicle wheel with inner and outer felloes, with intermediate springs, the whole covered by rubber or leather bands. B. Jones, London.
- 7,048 (1906). Pneumatic tire with studded leather tread. H. J. Joseelyne, London.
- 7,065 (1906). Tire vulcanizing apparatus in segments. W. H. Webb and H. Frost & Co., London.
- 7,066 (1906). Electrically heated portable tire vulcanizer. *Same*.
- 7,095 (1906). Fountain pen. F. W. Knight, Birmingham.
- 7,155 (1906). Spring wheel having a rim formed of two annular sections, with an intermediate buffer of rubber. P. Lamure, Paris, France.
- 7,163 (1906). Boot heel cushioned with pneumatic or solid rubber balls. A. F. Berry, Ealing.
- 7,173 (1906). Wheel with flexible rim adapted to hold rubber facing blocks. G. Floquet, Paris, France.
- 7,194 (1906). Wheel for gun carriages, with two or more rims or tires side by side. S. T. Richardson and R. Price, Birmingham.
- 7,207 (1906). Composite [cushion and solid rubber] tire. F. S. Bull, Sheffield.
- 7,209 (1906). Self closing valve, to prevent water waste, involving a pneumatic bulb and rubber diaphragm. A. Bruce, Glasgow.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 372,768 (Dec. 21, 1906). C. Jonatzy. Dismountable wheel rim.
- 372,838 (Dec. 22). Marc and Dunal. Pneumatic wheel.
- 372,861 (Dec. 22). L. Mangold. Pneumatic tire protector.
- 372,917 (Dec. 26). J. V. Meng. Insulation for wires and method of manufacture.
- 372,771 (Jan. 28, 1907). Granier and Froger-Delapierre. Compound for rubber designed to conserve its elasticity.
- 373,075 (Dec. 29, 1906). Deddens. Protective device for tires.
- 373,252 (Dec. 31). De Talleyrand Perigord de Sagan. New fabric for tire covers.
- 373,264 (Dec. 10). Brossard. Multiple air tubes for pneumatic tires.
- 373,054 (Dec. 28). T. Mulelev. Apparatus for vulcanizing tires.
- 373,122 (Dec. 31). Silme, Brouaoff and Rouaen. Improvement in rubber footwear.
- 373,276 (Jan. 2, 1907). C. F. Julien. Method of holding on dismountable wheel rims.
- 373,279 (Jan. 2). Colombati. Pneumatic tire covers.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Robert, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

Fruits That Yield Rubber.

IN view of the successes attained recently in systematic rubber culture, and of the still large yield of forest rubber, it may appear to some to be an extreme view to suggest that trees and giant creepers may not always serve as the world's main dependence for its rubber supply. Not that any rubber trees now standing are in danger of being neglected; they will be drained of the last drop of latex, even if this involves the destruction of the trees. But what about the future? Does it give promise of the development of new sources of rubber, through the evolution of plants now considered as minor and even insignificant rubber producers? Already the study has been begun of "quick crops" for the production of rubber, as succulent stalks or tubeis. And students of comparative agriculture cite in this connection the instance of the sugar supply, which was derived first from trees, then from juicy stalks, and now most largely from the beet root.

An ideal rubber plant, if such could be found, would be one from which the product could be gained in the shape of fruits, without injuring the tree, as grapes or apples are gathered. In the light of recent experiments in vegetable evolution, this field seems well worth investigating, because there are known already several species of rubber bearing fruits whose yield is considerable and appears to be capable of a rapid development.

There are bananas and grapes which yield a small amount of rubber. The banana rubber process was patented in 1896, but the yield is not large enough to compete with the food qualities of the fruit, though the rubber might perhaps be exploited as a by product in making banana flour. The latex is 95.7 per cent. water and 3.9 per cent. rubber, and it is easily coagulated by boiling.

A much better known instance of fruit rubber is found in the Mexican chicle (*Achras sapota*), which yields the chewing gum of commerce. The chicle gum usually contains from 35 to 55 per cent. of resin, and about 18 per cent. of rubber. This product is obtained by tapping the tree, but the best gum comes from the fruit. This fruit is about the size of an apple or osage orange, and, like the osage orange, is quite full of milk. This milk is coagulated by gentle boiling. When freshly clotted, the gum forms a tough, white, aromatic, and rather elastic mass, which later becomes friable.

Tabernaemontana Donnell Smithii (Rose) is another Central American and Mexican fruit, which yields what may be termed a blend of rubber and gutta percha. It is an *Apocynacea*, called "cojon de puerco" by the natives. The tree seems to be found in West Africa, also, and it has been cultivated in Kamerun, though the size of the fruit is disappointing. *Tabernaemontana* is a shrub or dwarf tree, often used as shade for coffee. It bears fruit at four years old. The latex is coagulated with lemon juice or brine, making a yellowish curd which is kneaded like gutta percha.

A recently discovered and still unclassified Mexican rubber fruit is the "papelillo," which grows abundantly in the states of Guanajuato and Michoacan. Samples of the rubber are now being tested in the United States and Europe.

An interesting fruit tree comes from São Thomé, Africa, from a private experimental garden at Porto Alegre. The tree itself does not yield rubber, but the fruit, which is as large as an orange, is said to be rich in latex. The gum shows 23.8 per cent. of substance insoluble in hot acetone, which would almost fit it for immediate use as a gutta.

Africa furnishes numerous rubber and gutta fruits. A Zanzibar fruit is said to yield considerable gutta, but details are wanting. *Marsdenia verrucosa*, a Madagascar vine, called "bokabe" by the natives, appears to be a promising rubber source. The fruits ripen in May or June, and 200 of them yield a quart of milk, on an average. The fruits are merely sliced and allowed to drip. Better extraction methods might secure a larger yield of latex.

Cryptostegia Madagascariensis, or "lombiry," contains milk both in the fruit and the stem. The fruits are smaller, 1000 being needed to get a quart of rubber latex, which is curdled by adding tamarind juice and boiling. *Landolphia spherocarpa*, or "ariabo," another Madagascar vine, has rubber bearing fruits, but the vine itself is more important as a rubber source.

Karite gum or "gutta-shea," has been known to the trade for 30 or 40 years, and yet the reports from it are conflicting. It is commonly ascribed to the fruit of *Bassia Parkii*, or *Butyrospermum Parkii* (Kotschy), a West African *Sapotacea*. It was for many years believed, on the authority of Dr. Heckel, that the gutta came from the trunk, while the butter was derived



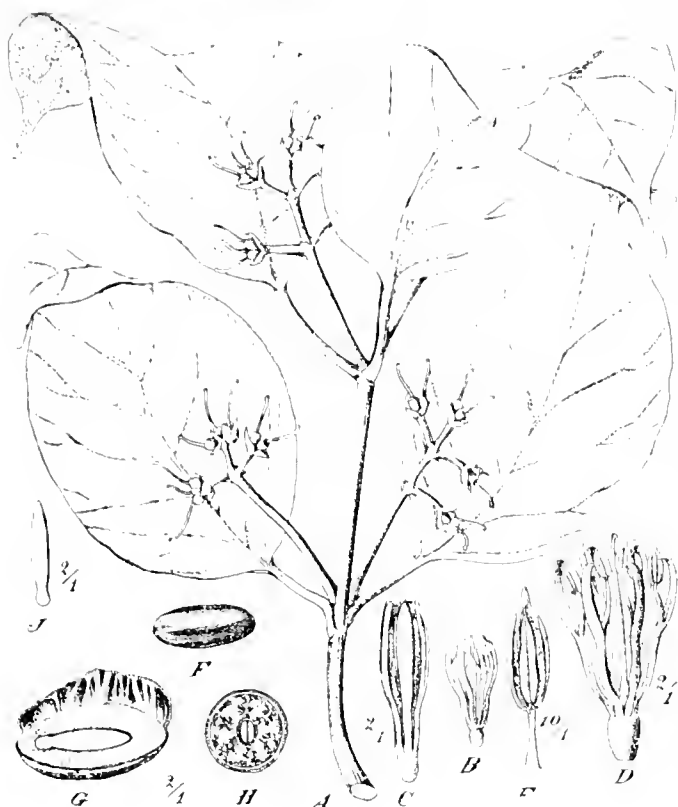
RUBBER YIELDING MISTLETOE.

[*Strutanthus springifolius* (Mart.), or "tina macho," growing upon its host. Native to Brazil, Venezuela and the Guianas. The large berry variety, and the most important of the rubber mistletoe species.]



ANOTHER VIEW OF THE SAME PLANT.

[Showing the method of fastening to a bough.]



RUBBER-YIELDING MISTLETOE

[*Struthanthus syringifolius*, or large berry mistletoe, showing the relative size of berry, leaf, and blossom. Sections of the berry show the rubber wrapping about the seed.]

from the fruit. Later researches point to the fruit as the source of both. Some authorities regard the Karite gutta as of good quality, being 92 per cent. pure; while others, like Fendler and Heim, seem to consider the gum worthless as a substitute for gutta-percha. The butter gutta-gum forms about 30 per cent. of the fruit, and contains, on the average, 25.20 per cent. gutta, 57.13 per cent. resin, 5.04 per cent. water and 12.63 per cent. impurities. When fresh it is yellowish, smells and tastes like cocoa butter, and is extensively used as food by the Africans. The edible fruit ripens in June or July, and looks much like a green plum, having one large seed, from which the butter is made.

Two shrubs, *Abrotylis gummiifera*, of Sicily, and *Alstonia Durkeimiana*, of New Caledonia, yield a remarkable amount of rubber like material in their blossoms, but nothing is known about the fruit of *Alstonia*, though every other part of the tree is milky.

Eucomia ulmoides, sometimes called a *Trochodendracea* and sometimes a *Hamamelidacea*, and even classed as a *Euphorbiacea*, is a hardy Chinese shrub, which appears to be an extremely promising source of a gum having some of the properties of both rubber and gutta-percha. The plant is called "tu-tschung" in China, where it is cultivated for certain medicinal purposes. The shrub has been known in Europe for about 15 years, and grows out of doors through the winters of northern France. The whole plant is saturated with latex, and the fruit contains 27 per cent. of the gutta like gum. Under a system of careful selection this plant should become a valuable plantation crop, if numerous reports are to be trusted. Its capacity to bear a temperature of 18° F. should suit it for cultivation over a large part of the temperate zones. The best method of propagation is from slips or cuttings, seedling being rather uncertain.

We might now speak of the very considerable rubber content of the fruit of better known rubber trees, especially *Hevea*, *Hancornia*, and *Castilloa*; but these species are of far more importance for tapping. The fruit crop is too small in proportion to

the size of the tree, the tree is too large to be handled as a fruit or orchard tree, and besides that the present purpose of the writer is to eliminate the tree as far as possible.

Several other tropical American trees yield fruit rubber, and it may be worth while to mention a few of these. "Pepino do mato" bears great numbers of cucumber like fruits, which are full of milk and yield an inferior rubber like material. The tree is rather small, which is well. "Coxinduba" is a middle sized tree, which contains milk in both fruit and trunk.

"*Ucuhuba branca*" or *Virola Surinamensis*, and "*ucuhuba ver-mellia*," or *Virola sebifera*, two trees of the *Myristicaceae* family, contain an abundance of thick, reddish milk in their bark, and the fruit yields a valuable wax, when chopped and boiled. "Assaen-miri" or "aryoeiro," is a small, thorny tree, whose trunk, flowers and fruit yield a poisonous milk containing an inferior gum.

Some of the South American mistletoes have lately attracted considerable attention for their rubber bearing fruit. These *Loranthaceae* include several genera, scattered over all tropical America, and growing at all altitudes up to 5,000 feet. Warburg's classification, according to the size of the berries, has been quite generally accepted.

Struthanthus syringifolius (Mart.) has the largest berries and is the richest in rubber. The berries are about half an inch



ANOTHER SPECIES OF MISTLETOE

[*Struthanthus syringifolius*, or middle-sized berry, showing berries, relative size of berry, leaf, and blossom. This mistletoe ranks next in importance to *Struthanthus syringifolius*.]

long, shrink slightly, and lose about half their weight in drying. When fresh, the latex is expressed from the berries and coagulated; but when the fruit is dried, the nearly pure rubber is found as a wrapping around the seed, this wrapping being red or yellow, according to the variety. Warburg fixes the rubber content at 27 per cent. of the dry fruit. Fendler got 15 per cent. of rubber and 11 per cent. of resin, or 26.37 per cent. of gum from the dried berries. Marekwald and Frank got 23.6 per cent. of about equal parts rubber and resin, or about 13 per cent. of pure rubber from the dry fruit. Roversi and Knoop got 18 to 21 per cent. of pure rubber. There are reports of single trees which have yielded 250 pounds of dry fruit. This mistletoe is to a large extent an air feeder, and grows best on the "guamo" or "inga" tree, which is extensively used as coffee shade, particularly in Venezuela.

What has been said of *Strutanthus syringifolius* applies, in the main, to *Strutanthus marginatus* (Bl.), another mistletoe, though its berries are somewhat smaller.

Phthirusa theobromae (Eichl.) bears "middle sized" berries, which are not so rich in rubber as the above. It grows on guamo, aguacate, mango, cacao, oleander, and coffee trees, besides several hedge plants, and on several rubber trees, as well as cassava or *Manihot utilisima*. The berries grow in thick clusters, and Knoop thought that their yield of rubber would be more valuable than the coffee crop itself. Since then the price of rubber has risen much faster than that of coffee. This mistletoe is quite vigorous, throwing out tendrils to seize and tap neighboring branches.

There are a number of small berry mistletoes, such as *Phthirusa pyrifolia* (Eichl.), *Phoradendron rubrum* (Griseb.), *Phoradendron giordanii* (Warb.), *Phoradendron Knoopii* (Warb.), and *Strutanthus Roversii* (Warb.), with some less known kinds, all of which produce some rubber. Besides these, there are other mistletoes which produce viscín, birdlime, and Japanese wax, the last being usually accredited to the fruit of several *Rhus* species.

Mistletoe may be propagated either by sticking a seed in a crevice of bark or by tying a tendril twig upon the branch of a suitable tree. The plants get their growth in two years. They are all more like orchids than true parasites, and they might be made to grow even on frames or trellises. The rubber content is exceedingly high, the fruit is abundant, and, being such a quick grower, the plant is capable of a great and rapid improvement, in the hands of the scientific gardener.

COTTON IN THE CENSUS.

BULLETIN 74 of the United States census of manufactures (1905) relates to the textile industry, including the cotton branch. The production of cotton goods is shown to have increased largely since 1900, though the increase appears not to have extended to cotton duck. The following comparison is given of the production (in square yards) of duck other than "sail":

Census of 1900.....	117,483,925
Census of 1905.....	113,014,603

The bulletin contains nothing bearing upon the probable cause of the reduced production of duck. Some figures appear in relation to the cost of raw cotton. The average cost per pound to the mills, in 1905, of the different classes is stated as follows:

Sea Island.....	19.45 cents
Egyptian.....	17.38 "
Domestic, other than Sea Island.....	11.62 "

The average cost of domestic cotton in the census of 1900 was stated at 6.67 cents per pound.

COTTON PICKINGS

ELEVEN large cotton spinning mills at Manchester, England, were reported recently to have declared dividends for their last business year averaging 23 per cent. on their share capital.

Cotton planting in Canada is likely to be stimulated by the Japanese association of cotton growers, at whose instigation an expert in the department of agriculture of Japan has been carrying on experiments.

Cotton ducks are widely used in Australia for making tarpaulins and for blankets for horses and cattle. The English awning ducks now command the market.

A COLOMBIAN RUBBER MERCHANT.

THE fact that so much of the republic of Colombia remains undeveloped has not discouraged her government or the leading business men in their efforts to place the country upon the plane to which the natural resources would seem to entitle it. Much of Colombia is relatively difficult of access, but the mineral and vegetable wealth awaiting development is so vast as to keep alive the hope that ultimately foreign capital will be attracted on a scale which will bring about a new industrial era. The population is sparse, as well as wanting in capital for progressive undertakings, and transportation facilities are very

limited as compared with those of many countries. At the same time there are not lacking merchants, mining proprietors, and planters whose enterprise is of the highest order, and whose success proves what may be done with the country's natural resources, when intelligent and determined effort is applied.



FIDEL CUELLO

Fidel Cuello, the subject of the portrait herewith, is a native merchant who is typical of

the class referred to. His business is located principally at Bogotá, the national capital, and at Neiva, the head of steamer navigation on the Magdalena river. Señor Cuello is the manager of the house of Caño, Cuella & Co., importers and exporters, with agencies at various points other than those named here, and correspondents in London. During 20 months recently the exports of this house reached the value of £65,686 10s. 4d. [\$319,745 73. gold], in addition to the purely domestic trade. The most important item of export was india-rubber, collected by Señor Cuello's house. Next came coffee, produced on his plantation; hides, gold, quinine bark, etc. In addition to his activity in business, Señor Cuello serves as the representative at the national capital of the *intendencia* of the Alto Caquetá.

Señor Cuello has been particularly interested in the development of the region drained by the rivers Putumayo (or Iça) and Caquetá (or Yapurá), both of which, rising in Colombia, flow into the Amazon. From the head of navigation on the former to the Atlantic seaboard is about 3,000 miles, but direct communication is possible, and the hope is entertained of developing this region by exploiting an extensive concession (of lands between the two rivers) held from the government by Señor Cuello and an associate. The president of Colombia, Señor General Rafael Reyes, has been deeply interested in seeing this region developed, since a number of years ago, he explored the Putumayo at his own expense from the source to the seaboard, demonstrating that it is navigable. The Caquetá region as a

source of rubber was treated in THE INDIA RUBBER WORLD as early as July 15, 1893, (page 307) by a relative of General (now President) Reyes, since which time considerable rubber has been exported from that part of Colombia.

The Amazon Colombian Rubber and Trading Co. (New York) have been incorporated to exploit the Putumayo-Caquetá concession, granted in 1905 to Caño, Cuello & Co. A report on this company in THE INDIA RUBBER WORLD of May 1, 1907 (page 260) elicited a statement from the Peruvian consul general in New York to the effect that his government considers part of the lands covered by this concession to be comprised in that territory which is disputed between Colombia and Peru. A director of the company, however, advises this journal that the *modus vivendi* between the two countries signed in Bogotá, September 12, 1905, several months after the granting of the concession by Colombia, obligates both countries to maintain the *status quo*, thus directly protecting the existing concession. Furthermore, during the arbitration of the dispute as to the lands lying principally to the south of the concession, all military posts and custom houses have been withdrawn, and both governments consent to the free navigation of the Putumayo. As the Amazon Colombian Rubber and Trading Co. have to do with about 20,000,000 acres of lands under their concession, and a larger extent of territory indirectly outside the concession, and as only a small part of the territory is in dispute with Peru, the operations of the company on a whole do not seem likely to be affected, no matter how the arbitration results.

* * *

THE Amazon Colombian Rubber and Trading Co. have completed their organization by the election of Frank Squier, president; Herman D. Selleck, managing director; Colonel John Bidlake, secretary; and Julian M. Gerard, treasurer—all of New York. Among the other directors are Benjamin Briscoe, of the automobile trade; C. P. Collins, president Inca Rubber and Mining Co.; Fidel Cuello, of Colombia; and Houston M. Sadler, formerly of the United States Rubber Co., and now a member of the New York Stock Exchange.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

AS another evidence of the growth and importance of Akron as a tire center, announcement is made that the Buckeye Rubber Co. are about to erect an addition to their already extensive factory, which will almost double the concern's output. The object of the newest building venture is to add pneumatic tires to the company's products. The building now under construction is to be 250 x 40 feet, and will be of brick. The estimated cost of the addition is \$25,000. The Buckeye factory is controlled by the Consolidated Rubber Tire Co. (New York), formed originally to exploit the Kelly-Springfield solid rubber tire.

As he was about to leave his office for the last time, Mr. Charles C. Goodrich, general superintendent of The B. F. Goodrich Co. until he resigned, a short time ago, was surprised by a delegation of a score of the factory's general foremen, who presented him, through Mr. T. Garrett, with one of the finest and most costly meerschaum pipes ever brought to this city. Mr. Goodrich left Akron the next day, and sailed from New York for Europe, where he will spend the remainder of the summer.

A conference of the branch managers of The Diamond Rubber Co. was held during the month in Akron, and 18 of the managers were in attendance. The guests were entertained at dinner at the Portage Country Club. Secretary W. B. Miller, of the company, officiating as toastmaster. The managers present were: H. J. Woodward and T. J. Smith, New York; E. H. Fitch and E. P. Weber, Philadelphia; W. P. Cronin, Boston; C. H. Smith and E. M. Anderson, Chicago; C. E. Matthewson and Don McKay, San Francisco; G. J. Bradley, Cleveland; H. L.

Doyle and J. W. Paul, Pittsburgh; W. M. Periett and H. M. Cooper, Detroit; W. E. Roby, Minneapolis; H. C. Miller and W. E. Bailey, St. Louis; and M. E. Oliver, Buffalo, N. Y.

A new massive brick building to be used by The Diamond Co. for the installation of increased facilities for tire manufacturing is half completed.

At a special meeting of officers of the Aladdin Rubber Co., whose plant at Barberton was destroyed by fire a short time ago, it was determined to go ahead with the reconstruction of the plant. The new buildings will be erected on the same foundations, and an additional story will be added all through, to accommodate the new machinery to be installed. Secretary Gilbert has stated that the enlargement, as now planned, will have the effect of tripling the company's former output. The daily output of the reclaiming plant will be 100 tons of rubber.

Mr. W. J. Gorham, president of the Gorham Rubber Co. (San Francisco), was a visitor to Akron about the middle of August.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

TRADE has not been as active during the past two months as it should have been, considering the amount of building activity which is in progress, owing to the labor disturbances, but in spite of the general complaint which has been made from merchants in nearly all other lines of business, very little has been heard from any of the rubber houses. They have all been doing a fairly active business, and all look forward to a more active business during the latter part of August, and from then on when the regular fall business activity begins to open up. The crop reports from some sections of the interior are very good, while in some sections the yields will not be very large, but the prices on all products of the farming districts have doubled and trebled, which makes the net profits much greater than they were last season. Money is a little more plentiful than it has been for some time, collections are better and the improvement in the city's administration by the appointment of honest officers has shown beneficial results. Eastern money is beginning to come here again with the old time freedom.

R. H. Pease, of the Goodyear Rubber Co., is now enjoying his stay in Portland, Oregon, but he is not enjoying his new \$6,000 Packard automobile. He sent the machine up by boat, but he shipped it on the ill-fated *Columbia* which went down with nearly all on board. He was fortunate, however, in that at the last moment he decided not to send his family on the *Columbia*, as he had at one time intended to do. At the local headquarters of the house the report is that business is keeping up well in all branches and that they are getting ready now for an active fall trade in rubber boots and shoes, of which they are laying in an enormous supply to meet the demand which the condition of the streets in San Francisco is expected to create during the coming rainy season.

The Graton & Knight Manufacturing Co., the belting people, have moved from their temporary quarters on Beale street to permanent quarters in a new fireproof building on Fremont street, between Market and Mission.

William Perkins, president of the Sterling Rubber Co., while on a vacation trip through Humboldt County met with a serious injury in a runaway accident. He is now fully recovered, however. He reports that in the country the rubber business is very good, although in this city it is still a little slow.

Mr. Kanzee, of the Phoenix Rubber Co., states that business in the mechanical lines is rather slow, although in the rubber tire line it is very good. Conditions in the city, he says, are not as promising as they might be, owing to labor disturbances, but they have found no trouble in increasing their business every month.

Mr. W. J. Gorham, of the Gorham Rubber Co., was down in Los Angeles during the last month looking after the firm's

branch store there, while his Los Angeles manager, Edward Helm, went on a combined business and pleasure trip to the Eastern states. Mr. Helm has now returned, and Mr. Gorham has gone on a flying trip to Akron, Ohio.

Work on the new three-story permanent building for the Pacific Coast Rubber Co. is progressing rapidly, and the firm expects to be located there by the first of October.

L. L. Torrey, manager of the local branch of the Pennsylvania Rubber Co., is now in Seattle looking after the business in the northern portion of the coast territory. The firm's San Francisco branch is being taken care of by Mr. Grant in the meantime, and is doing some very active work. The repair plant is nearly completed, and will be in full working order soon.

Mr. Bennett, of the Los Angeles Rubber Co., has returned from his Eastern trip, and passed through San Francisco on his way home.

Mr. Gregory, manager of the New York Belting and Packing Co., Limited, has gone East in the interests of the firm.

N. S. Dodge, of the Western Belting and Hose Co., arrived from his Eastern trip this week, where he has been securing new rubber lines for his firm, whose offices are at Nos. 31-33 Main street.

A new company has been formed, called the Pacific Mill, Mine and Supply Co., with offices in the Joshua Hendy Machine Works building, on Fremont street. Frank Steers and Earnest Folsom, formerly with the Graton & Knight Manufacturing Co., are the principal movers in the new concern.

R. J. McNeilly is now sales manager for Barton, Squires & Byrne, Inc. He has recently come directly from The Diamond Rubber Co., at Akron, Ohio. The firm is now well established in its new four-story building at No. 531 Howard street. The establishment is especially well equipped for making spiral ring packings and molded goods. It is their intention to install one or two new presses shortly.

G. G. Magill, representing the Central Rubber Co., of Chicago, has been in San Francisco recently making the rounds of the trade in the interests of his firm.

C. H. Chase, manager of Bowers' Rubber Works, has gone for a two months' business trip East. At the local store they report that they are not caught up with orders and have still two months' run ahead. The factory at Black Diamond is about completed in equipment and is able to turn out orders very fast. William Long has gone to Los Angeles for the firm for the purpose of opening a branch store in that city.

Joseph V. Selby has moved the offices of the Boston Woven Hose and Rubber Co. from the temporary quarters on Stuart street to a permanent location on Folsom and First streets.

The W. D. Newerf Rubber Co., Coast agents for the Good-year tires, is now located at No. 506 Golden Gate avenue, San Francisco.

The Stevens and Elkington Rubber Co., dealers in tires principally, are located in new quarters at No. 526 Polk street.

IS THERE A NON-SLIPPING HORSESHOE?

THE pecuniary losses to horse owners, says the New York *Rider and Driver*, from injury to or the death of their animals after every snowfall, must be enormous. Moreover, the sufferings due to horses from such causes are distressing to humane spectators. In the opinion of the writer but little practical result has been attained in the way of developing a non-slipping horseshoe.

"The sole with a hard rubber artificial frog, either nailed on with the shoe, or, as seen mostly in London, slipped in with a pair of tongs when required, and removed at night for cleanliness' sake, is for saddle and light-harness horses satisfactory on ice and frozen snow. The absence of 'toe-hold,' however, makes this invention useless when there is any considerable

load to pull. The same description applies to the rubber cleats projecting through the greater part of the shoe itself. Frost nails are satisfactory for a very short time, especially on asphalt when the covering of snow is thin; moreover, they are very objectionable in the stable, and a horse is always liable to maim himself with them in lying down. Calks have the same disadvantages in addition to their own."

There are in the market conical or round pointed studs to be screwed into horseshoes at either toes, heels, or both, but *Rider and Driver* doubts their utility, "except in a long spell of snowy weather. The points wear down very fast, but the chief objection is that after a few days' wear on hard roads without the studs the thread of the holes in the shoes becomes so injured by the constant jarring that it is absolutely impossible to screw these in without retapping, which involves removal of the shoes."

If it be asked whether any non-slipping device has been invented, our contemporary answers that "in England, where, owing to the much more temperate climate, the necessity for such protection is not nearly so acute as here, there have been for at least 16 years non-slipping points easily removable, independent of screws and applicable to any shoe from that of a dray-horse to that of a child's pony. They are chisel pointed and therefore longer lived and more efficacious than round ones, and they can be placed at any angle so as to get the edge at right angles to the line of draught. All that is necessary is to have all shoes punched before they are fitted; the points can then be slipped in whenever required and removed easily at night by means of an ordinary pair of pincers. The cost is trifling, the points being about 5 shillings [=\$1.22] per hundred, and the farrier never charges extra for punching the four holes in each shoe."

RUBBER NOTES FROM EUROPE.

GREAT BRITAIN.

THE directors of the Telegraph Construction and Maintenance Co., Limited, recommended an *interim* dividend of 12 shillings per share, or 5 per cent, calling for £22,410 [=\$100,058.27]. The usual annual dividend is 15 per cent.

The directors of Siemens Brothers & Co., Limited, in presenting the report for the last business year, recommend a dividend of 4 per cent. The last preceding dividend was 10 per cent, in 1901.

The annual return of British Insulated and Helsby Cables, Limited, shows the entire capital of £1,000,000 [=\$4,800,500], divided equally between ordinary and cumulative preference shares, to have been taken up. There are £500,000 in 4½ per cent debentures.

The Castle Rubber Co., Limited (Warrington, England), registered on July to a trust deed to secure a series of £10,000 [=\$77,064] 5 per cent debentures, of which £12,800 [=\$62,291] have since been issued.

The directors of the Leyland and Birmingham Rubber Co., Limited, report that the high price of rubber and other raw materials during the business year ended on June 30 last had an unfavorable effect upon profits. The dividend, however, was the same as in the year before—6½ per cent. During the year the company absorbed James I. Goudie & Co., of Glasgow, and the Palatine Heel Co., of Preston, by which it is believed that a considerable output of the company's manufactures is permanently assured.

FRANCE.

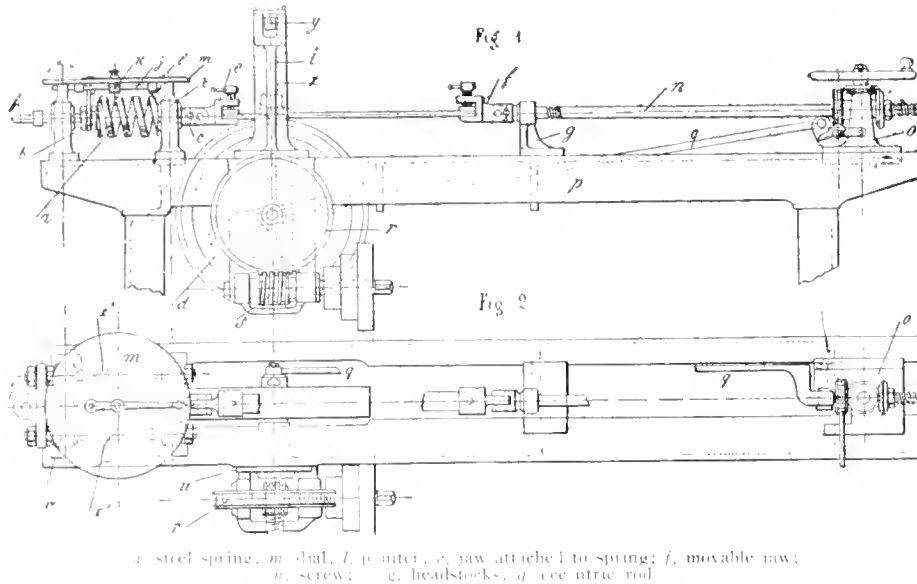
ERNEST BERLYN, Paris, dealer in rubber footwear of all kinds, including the United States Rubber Co.'s brands, has removed his business to 14, Rue Alexandre Parodi.

GERMANY.

It is reported that the syndicate of German cable makers, whose agreement was to have terminated on June 30, has been prolonged for a period of three years.

THE "P. B." DYNAMOMETER.

WITH the idea that a field exists for the better mechanical testing of india rubber, woven threads, and some other substances and fabrics, a French inventor has developed an apparatus which he has termed a dynamometer, which has been



DYNAMOMETER FOR TESTING RUBBER

patented in various countries and is designated in France by the trade mark "P. B." Chemical tests, while always interesting and in many cases of value, do not suffice for every purpose. In by far the majority of cases the articles in rubber, for example, supplied by factories to their customers are subjected in use chiefly to mechanical strains, and it is desirable that the manufacturers should be able to satisfy themselves that the articles are adapted to support the strains. It is for this purpose that this dynamometer has been devised.

The "P. B." dynamometer, as indicated by Fig. 1 and Fig. 2 in the accompanying illustrations, is horizontal. It consists of a solid cast iron table, faced perfectly true in its upper part, resting on strong cast iron legs, stiffened by cross stays. On this table are the two principal parts of the dynamometer: the apparatus producing the stresses and the appliance for measuring them.

The table is provided with a horizontal spring balance, which carries one of the jaws to hold the test piece. Means are provided to recalibrate the spring, and the pointer is arranged so as to remain at the maximum indication on the breakage of a specimen, thus recording the breaking load. The load is applied either with a hand wheel and bevel gear for quick motion, or through worm gear for heavy loads at low speed, and pulsating stresses of any desired amplitude can be applied by means of an eccentric gear at adjustable speeds. Samples can be tested in a bath, by means of which the temperature can be varied, and the apparatus also provides for compression, plasticity, repeated bendings, wear and friction tests, so that it is capable of being applied to a large number of purposes.

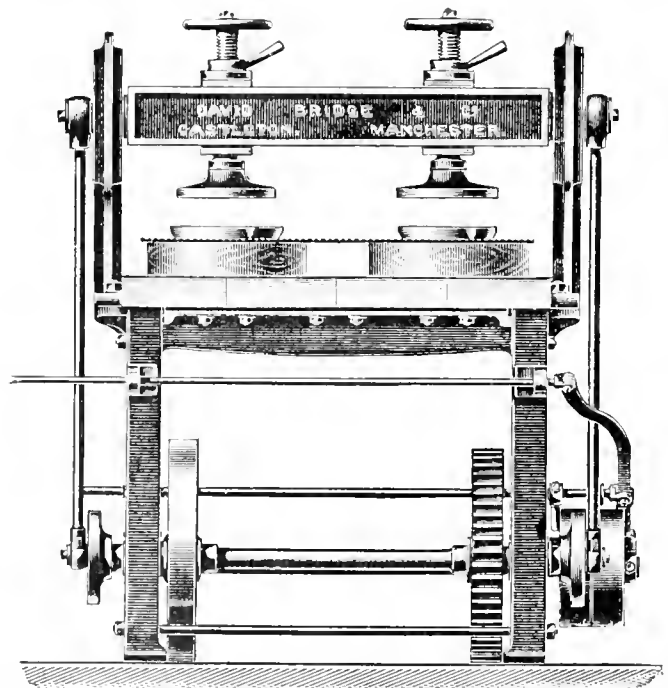
One of the important features of the P. B. system relates to the possibility of determining by its aid both the wear and tear and the coefficient of friction of rubber, fabric and so on. On the table of the dynamometer a small column is placed, carrying a graduated double arm lever arrangement along which an index

tongue moves, to which a marked weight may be suspended. This lever is supported on a vertical rod accurately guided in the column, and on its lower part this rod carries a pillow which presses on the piece to be abraded (see Fig. 3). The dynamometer has been brought out by A. D. Cillard fils, 49, Rue des Vinaigriers, Paris, who may be addressed also at No. 27 West Thirty-third street, New York.

SOLE AND HEEL STAMPING MACHINE.

THE machine illustrated here consists of a cast iron framework on which is mounted and fixed a wood table 3 inches thick, 42 inches wide and 39 inches long, the framework being well braced together and arranged to support standards and the mechanism under the table. The mechanism consists of a driving shaft with fast and loose pulleys running at about 100 revolutions per minute with pinion gearing into a large wheel fixed on a counter shaft. The driving pulleys are provided with belt shifting arrangements capable of being actuated either at the back or front of the machine. The counter shaft mentioned is fitted with a balanced flywheel as well as the large spur wheel, and two cranks of disc pattern, one at each

end of the shaft in which connecting rods of mild steel are taken up to the slide working in vertical guides above the table. This slide or crosshead is provided with two adjustable stampers for pressing on to the dies placed upon the material being cut by hand. The dies must be moved by hand to a new position between the stamper rising and falling again. The rubber must be brought on to the table, but it is advisable to put wood blocks underneath where the dies are placed, so as to prevent cutting of the table top. The table is not removable in itself, but the blocks are changeable or removable at will. With respect to the amount of work that this machine can do, assuming that the shaft runs



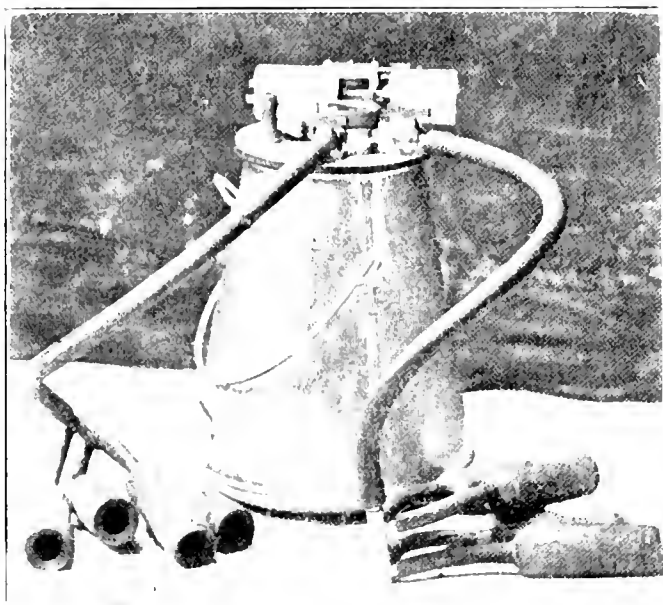
SOLE AND HEEL STAMPING MACHINE.

at 100 revolutions per minute. With this speed, about 1500 pairs of soles can be cut per day. It is claimed by the makers that two stampers would be needed to run one of each machine, as with two there is more of the work followed than with three in the way of setting the dies economically to cut the sheet. Of course, any number of stampers can be put on, but it is a question whether with more one man could move the dies sufficiently quick and advance the sheet. This machine is made by David Bridge & Co., Castleton, Manchester, England.

MILKING MACHINES.

THE number of cow milking machines already in use, and the apparent probability at present that such machines are to become important as a factor in dairying, suggests the propriety of a reference in this place to an interesting new application of india-rubber. During the past 35 years no fewer than 127 patents have been taken out in the United States alone for milking machines and parts, and several years ago a German writer mentioned 20 different milking machines as known to him. But most of these machines have fallen short of being practical in some vital point.

Recently such improvements have been made in milking machines, with such an increase in their use, as to lead the



A POWER MILKER WITH ATTACHMENTS

United States department of agriculture to undertake an investigation, the results of which have been published in an official bulletin. No figures are given to indicate how widespread the use of these machines has become, but as these lines are written a report comes to hand that upwards of 1,500 machines of a single make have been sold in Australia alone, being sufficient to milk more than 35,000 cows daily.

The milking machines on the American market are operated by hand power, by foot power, or by gasoline engine, electric motor, or steam engine, an essential feature in every case being some form of vacuum pump, to create the suction in the teat cups which draws the milk from the cow.

The illustration herewith shows a cow milker which has recently been put upon the market. It consists, in the first place, of an ordinary milk pail made of black tin and holding about 15 quarts. On top of this pail is a tight fitting lid of aluminum, mounted on which is a pump or pulsator which works automatically and causes the intermittent action of the machine. Con-

nections are made by means of rubber tubing to the exhaust and to the pump and pipes which are laid through the stables with convenient branch connections between the cows. Two rubber tubes, each about three feet long, are so connected with convenient nozzles on the lid, and on the other end of each are four cups which hang snugly over the cow's teats, the cows being milked into one pail. As the pulsator oscillates at the rate of about 60 times a minute the vacuum is alternately turned on and off, the teat cups causing suction and release at each alternate stroke. The machinery for operating the pulsator consists of an exhaust pump and a compressor; the exhaust produces the suction and operates the pulsator in one direction, while the compressor operates the pulsator in the opposite direction.

The teat cups are hollow and conical. Nearly an inch from the large end the cup is almost closed by a soft rubber diaphragm, this disk, being elastic, fits an tight around the different sized teats. The teats fill the conical cup, except at the small end, where suction is applied. The cup is made of three pieces of smooth hard rubber. To the end of the cup is attached a piece of glass tubing through which the milk may be seen, and this is again connected with a small rubber tube. By means of a spigot the suction may be cut off when the teat is empty. The milk is conveyed from the spigot to a head, where the milk from all four teats unites and passes into the large hose which carries it to the pail.

The Washington report referred to above covers a series of experiments, in which a comparison of machine milking and hand milking gave, generally, a result in favor of the machines, both in the saving of time and in the quantity of yield. In one experiment with 10 cows under observation for 20 days—an opposite result was attained, and the desirability of further experimenting is pointed out. It has been established, however, that with proper care and under certain conditions, the milking machine is economical in use, and it may be regarded as a permanent fixture in dairy equipment.

WANTS AND INQUIRIES.

[423] WANTED to communicate with a competent rubber technologist, one who is up to date on mineral rubber and rubber compounds, and one who is known to the rubber trade.

[424] Who are makers of "Sphincter Grip" armoring machines for india-rubber hose?

[425] Where can "viscose" be obtained, or where can the method of its manufacture from cotton be obtained?

[426] An American company, planting *Castilloa* in Mexico writes: "Can you refer me to any manufacturer or dealer in rubber tapping tools, latex cups, and coagulating tanks?"

[427] A European firm desires the name and address of the firm controlling articles made from "vulcan fibre" or "silesith."

[428] An inquiry comes from Japan for a machine for making rubber balls, which are now made in that country only by hand.

AMERICAN RUBBER GOODS EXPORTS.

THE following is an official statement of values of exports of manufactures of india-rubber and gutta-percha from the United States for eight fiscal years, ending June 30:

YEARS	Belting Packing and Hose	Boots and Shoes	All Other Rubber	TOTAL
1898-97	\$1,253,369	\$1,231,898	\$3,720,643	\$6,214,910
1899-00	1,221,150	1,505,082	2,696,144	5,662,385
1900-01	994,199	1,214,342	2,572,375	4,780,817
1901-02	879,476	1,686,364	2,499,750	4,435,590
1902-03	810,685	1,050,491	2,269,875	4,176,351
1903-04	634,146	1,046,315	1,781,641	3,462,402
1904-05	595,726	724,315	1,727,527	3,017,268
1899-00	541,830	420,740	1,495,212	2,307,788

THE OBITUARY RECORD.

MRS. ADELAIDE E. PEARSON, wife of Henry C. Pearson, Editor of THE INDIA RUBBER WORLD, died on the morning of August 16, at No. 14 Olmstead street, Jamaica Plain, Boston, which had been their home for twenty years. Mrs. Pearson was a native of North Norway, Maine, and the daughter of M. Osgood French and Betsey Pierce French. She was engaged in literary work in Boston before her marriage, and later was identified actively with various forms of religious institutional work in that city. Funeral services were held at North Norway on August 18.

THE LATE HENRY F. DOHERTY.

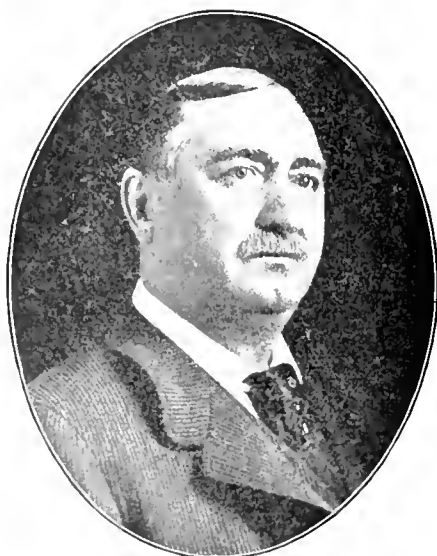
A VERY wide circle in the trade will learn with regret of the death of Mr. HENRY F. DOHERTY, a director in and sales manager of the Davol Rubber Co., which occurred on July 31 at his home in Providence, Rhode Island. Mr. Doherty was fortunate in having won both success in life and very many devoted friends. These gathered in large numbers to pay their last tribute, on August 2, at services held at the late home of the deceased, the Rev. S. H. Webb officiating, after which the interment took place at Pocasset cemetery, Providence.

Mr. Doherty was a native of Providence, and in his fifty-seventh year. He has been described as the best known, the most popular, and the most successful seller of goods the druggists' sundries trade has ever known. The following notes "In Memoriam" have been supplied by a friend of long standing, Mr. Theodore E. Studley, of the New York rubber trade:

"When Mr. Joseph Davol took Mr. Doherty from a printing office and sent him out to sell rubber goods, it was a case of natural selection, as Mr. Doherty had no knowledge of either the goods or the trade.

"At that time, I was the buyer of large quantities of rubber sundries, and a mutual friend gave Mr. Doherty a card of introduction to me. His genial manner and transparent ignorance of the work he had undertaken appealed to me, and I coached him then and afterwards to his and my own great satisfaction. His success in the business showed his eminent fitness for the position, as well as the splendid support given him by the company he represented. For about twenty-five years, he has visited the trade, making new friends and keeping his old ones, holding their business against all competitors, by his absolute straightforwardness and honest business methods. His last trip to New York was in the first week of May, at which time he was ill, but kept up and attended to some business after his return to Providence. But the last of May, he was prostrated, and from the 30th of that month till his death was unconscious most of the time.

"He was an all around good fellow and will be most missed by those who best knew him, which is the highest compliment possible for any of us."



HENRY F. DOHERTY.

OBITUARY NOTES.

JOSEPH WILLETT CLAPP, who died on August 17 at Ashland, Massachusetts, in his seventieth year, was the father of Walter A. Clapp, who has been connected with the rubber goods selling trade in New England and in New York state for a number of years. Mr. Clapp was connected with the Portland and Kennebec railroad as early as 1853, and later with the Maine Central road, after which he was in business in Bangor, Maine, and in Boston. The interment was at Bangor, on August 20, with Masonic ceremonies.

Abiel Copelin died at his home in Malden, Massachusetts, on July 8, in his seventy-third year. He had been employed for 42 years by the Boston Rubber Shoe Co., during the greater part of the time as an overseer, and was recently retired by them on a pension.

IN THE AMAZON RUBBER COUNTRY.

AN ENGLISH COMPANY "MAKES GOOD."

DE MELLO Brazilian Rubber Co., Limited, an English company formed in 1906 with £495,000 [= \$2,408,917.50] capital, to acquire the rubber estates of Sebastiao F. de Mello in the Acre country, apparently have made a good beginning. According to the company's prospectus, the production of these estates had shown for five years an average output of nearly 300 tons of rubber per annum, rising in 1905 to 383 tons. Reports from Manáos indicate the receipt at that port by this company, during the twelve months ending June 30 last, of 565 $\frac{3}{4}$ tons as follows: Rubber, 1,064,279 pounds; Caucho, 180,387 pounds; total, 1,244,666. This was produced on the Acre river, with the exception of 4030 pounds of rubber from the Javary. The exports from Manáos, on account of the company, amounted to about 500 tons, through Dusendschön, Nommensen & Co. The firm of Mello & Co. continue in business at Manáos and received during the last crop season 2,208,943 pounds of rubber and caucho, mainly from the river Juruá, they ranking third in importance among the rubber receivers at Manáos. This business, by the way, is distinct from that of the De Mello Brazilian Rubber Co.

RUBBER OUTPUT LIMITED BY LABOR.

THE rubber situation was discussed by the chairman of the Amazon Steam Navigation Co., Limited, at the last annual meeting of the shareholders in London. Speaking of the Pará rubber output for the past year, which was the largest on record, he said: "The present range of values is one to give every stimulus to production, and production is practically a question of labor. The extent of the yield is dependent on the number of men employed upon it, and the supply from Ceará (from which state nearly all the men employed in rubber collecting come) seems to be fairly abundant. With regard to the production of rubber in the East, of which accounts frequently appear in the press, it must be many years before this can compete seriously with the Amazon."

COLOMBIA ENCOURAGES RUBBER PLANTING.

UNDER a decree published at Bogota on July 20, 1907, the government of Colombia offers a bonus of \$4 (gold) per quintal [= 110.23 pounds] on all plantation or cultivated rubber exported within seven years from the date of the decree.

SALE OF AMAZON RUBBER CAMPS.

ONE may see frequently in the Pará newspapers the advertisements of a *seringal* (rubber camp) for sale, generally at auction, due to a liquidation in business. The lands as a rule are not privately owned, but one who opens a *seringal*, cutting out *estradas* (paths), and putting up a *barracao* for the workers, is recognized as having proprietary rights in such improvements, and these are transferable. A rubber property recently advertised at auction in Pará was located in Cbaves, on the island of Marajó, and THE INDIA RUBBER WORLD took the pains to inquire as to the result of the sale. The price realized was 50 milreis per *estrada*

1100 rubber trees on an average), or about \$15.71, with exchange at 15½ pence. This was very low, since such property is usually considered worth 500 milreis per *cabada*. But a our correspondent writes: "It is very difficult to judge of the value of a piece of property by the price it brings at an auction. At times, owing to scarcity of money, properties go very cheap."

INAMBARI MAKES A BEGINNING.

At a special meeting of shareholders of the Inambari Pará Rubber Estates, Limited (London, July 22), the chairman, Sir William Martin Conway, explained the causes which had delayed completion of the purchase of the properties in Peru which the company was formed to acquire. But preparations for collecting rubber had not been delayed, the vendors having agreed to guarantee the return of any money which might be expended by the company in the event of the purchase of the properties falling through. The company is provided with £75,000 [\$304,087.50] in working capital; some rubber gatherers have been secured and other preparations made. The next regular tapping season is to begin in October. Thomas H. Slater has been secured as manager of the company's properties.

A PARA BOOK ON RUBBER PLANTING.

THE treatise on rubber planting, adapted for use in the Amazon region, referred to by the governor of Pará in his last message as being in course of preparation [see THE INDIA RUBBER WORLD, January 1, 1907—page 104] has made its appearance. The author is Dr. Jacques Huber, director of the Pará Museum. It discusses the practicability of cultivating the *Hevea Brasiliensis*, the principal native rubber tree of Brazil, based upon the results attained in the Far East, and points out the methods employed in Ceylon or elsewhere. Mixed planting—that is, rubber with cacao or other crops—is recommended. The title of the brochure of 50 pages, printed in Portuguese, is: "A Seringueira (*Hevea Brasiliensis*). Conselhos praticos para a sua cultura racional."

AN ALARM SOUNDED IN PARA.

A NOTE in a recent issue of this Journal on a test for farinha in rubber serves as the text for a lengthy contribution to the Pará newspaper, *Folha do Norte*, on the adulteration of rubber in its original preparation, signed by Americo Rodrigues. Doubtless INDIA RUBBER WORLD readers elsewhere will be interested in learning how rubber topics are discussed in the great home of rubber—the lower Amazonian capital. It probably will be news to them that the use of farinha in rubber has led to such vigorous protests as are here reported. Senhor Rodrigues writes:

ADULTERATED RUBBER.

It is reported by North American newspapers, and particularly by reviews that are specialists in matters pertaining to the commerce and industry of india-rubber, that the manufacturers of rubber articles in the different industrial centers of the great republic are directing all their efforts to the refusal of the raw article when it presents signs of adulteration by the addition of mandioc flour. These manufacturers hope to be able to get buyers in Belém (Pará) and Manaus to refuse to accept the rubber which is adulterated in such manner; or if they do buy it, they should do so at a price relatively lower, so that the difference can compensate for the expenses incurred in removing the extraneous substance.

This question has been the subject of heated discussion in the meetings of manufacturers which have been held lately, several experiments made proving the inferiority of the adulterated article in its use in certain manufactures.

Several processes have been suggested for detecting the adulteration, that discovered by Mr. Walter E. Piper, of the Boston Rubber Shoe Co., being the one which is commonly used. This process consists in the employment of a solution in water of

iodine, later added to the article which on being applied with a brush on the surface of the article, the presence of the tannic acid is indicated by a black color, which the rubber assumes upon contact with the iodine.

Now facts of this kind directly affect the commercial welfare of the vast regions where inhabitants whose very life is so closely interwoven with the rubber extracting industry, will not pass unnoted by those who are properly cautious about the land that gave them birth.

With this idea in mind, we will attempt to bring to light these facts, calling the attention of the interested parties to these irregularities, fraught with so many perils to our principal industry, and at the same time demand from the competent authorities the enactment of repressive measures against such a wanton abuse.

While conserving always the rudimental processes of extraction, here where the *Hevea* grows spontaneously, we are behind those progressive regions where the rational culture of the precious plant is yielding already a liberal harvest. And we blindly open the door—either through the adulteration of rubber or through the criminal production of inferior qualities—for the competition which vigilantly lies in wait to take advantage of every opportunity.

Statistics still give to the Amazon region the supremacy in the world's supply of rubber; but, on the other hand, they report a depreciation in the value of the article, due to the facts already related.

The extraordinary progress of industry in this country, always ascending, in proportion as science and civilization become intensified, has made an article like rubber which, at least until now, has had no substitutes, the object of the covetous dreams of capitalists. Hence the constant organization of companies and enterprises requiring the subscription of millions for the exploitation of the rich industry and the establishment of rational culture of the famous *Euphorbiaceæ* in all tropical countries where they can be easily acclimated.

In Ceylon and the Malay peninsula alone there are approximately 30,000,000 *Hevea* trees planted, and, according to a very useful publication by the distinguished Dr. Huber, director of the Pará Museum, it is not impossible that in ten years this number will be duplicated. It is very probable, says this scientist, that by 1915 such plantations will be able to produce as much as, and possibly more than, the quantity now produced in the Amazon districts.

In the face of such grave danger only a people like ours could maintain an indifference so criminal. It may be that our indifference to destiny is an effect of our environment, whose grandeur we continually extol, without deriving from it the advantages which nature has intended. But it is urgent that we awake from the ecstatic apathy into which we have fallen and endeavor to anchorate the rubber situation, including the extension of its production by means of rational cultivation.

AMÉRICO RODRIGUES

HE YEARNED FOR GALOCHES.

IN the advertising columns of a recent number of the Paris *Figaro*, under the classification of "Renseignements Utiles," or "Useful Notices," an advertisement appears, of which the following is a literal translation:

"A Russian dwelling in Paris since a recent date feels desolated at not being able to find galoches of india-rubber of the Russian model, that is to say rigid. He would be grateful to any one who would indicate to him a stock of these Russian galoches in Paris. Write to the *Figaro*, Serge V."

The advertisement occupies six lines of space and advertising space is not cheap in Paris newspapers. It probably cost Serge V., says the New York *Sun*, from \$6 to \$10 to seek relief for his desolation at the lack of Russian galoches.

News of the American Rubber Trade.

POPE MANUFACTURING COMPANY ASSIGNS.

THE Pope Manufacturing Co. (Hartford, Connecticut) on August 14 announced: "We made a voluntary assignment to-day, owing to inability to get the company's loans renewed because of the present high rate of money. The assignment was made for the benefit of the creditors, as the assets of the company are far in excess of the liabilities. The business will continue the same as heretofore, and the assignment will have no effect on the company's agencies or the customers who purchase Pope cars." Nominally the assignment was forced by a bill of complaint filed by the MacManus-Kelly Co. (Toledo, Ohio), but the proceeding was in the nature of a friendly suit.

The first papers in the case were filed in the chancery court of New Jersey, the company being a New Jersey corporation, in which state Egbert J. Tomblin, of Newark, N. J., and Albert L. Pope, of Hartford, were appointed receivers. Mr. Pope, who is vice president of the company and a son of Colonel Albert A. Pope, its president, was subsequently appointed receiver by the United States circuit courts in New York, Connecticut, Massachusetts and Maryland, in which states the company operates and possesses property. The receivership proceedings relate also to the Pope Motor Car Co., a subsidiary company.

The Pope Manufacturing Co. was incorporated February 27, 1903, to acquire the properties of the American Bicycle Co. and what remained of its business. The chief spirit in the organization was Colonel A. A. Pope, who undertook to revive the bicycle trade, at the same time taking on the manufacture of automobiles on a large scale. The company is capitalized at \$22,500,000. It is stated that the business of the company has been very large and that it has had a borrowing capacity until now of \$1,000,000, which was reduced lately by the stringency of the money market to \$1,000,000, thus rendering the company unable to renew certain loans. Colonel Pope, the founder and head of the company, has been instrumental in developing a very large outlet for rubber, first as a bicycle manufacturer and later in respect of automobiles. At one time he was the owner of the Hartford Rubber Works, which first became a tire factory under his control.

REPUBLIC RUBBER CO.—NEW BUILDING.

DURING the last week in August ground was broken for the foundations of an additional building for the Republic Rubber Co. (Youngstown, Ohio)—five stories, concrete construction, 160x40 feet. The two lower floors will be used in extending the present automobile tire department, the demand for their tires being in excess of the existing manufacturing capacity. The space above will be devoted to the manufacture of cotton rubber lined fire hose, a line which the company are now adding. The company will weave their own jackets and market a specially high grade of hose of their own patented construction. The company have constructed another large building within 18 months, and their business is reported to have shown a large increase in all departments.

FAULTLESS MANUFACTURING CO.'S ANNUAL.

THE annual meeting of shareholders of The Faultless Rubber Co. (Ashland, Ohio) was held in the company's offices on August 2. The treasurer's report was gratifying, the company having

had a very prosperous year. A number of improvements are now under way, including two new buildings, one to be used for a boiler house and the other for manufacturing purposes. The following were elected directors for the year ending June 30, 1908: H. B. Camp, A. Vogt, T. W. Miller, G. D. Bates and F. E. Meyers. The board then elected the following officers:

T. W. Miller, president. He has been general manager since the organization of the company and succeeds Mr. H. B. Camp, president from the beginning, who retires from office on account of ill health.

A. Vogt, vice president, reelected. He is a manufacturer and vice president of the German-American Insurance Co. of Rochester, New York.

I. Leroy Miller, secretary. He has been identified with the company from the first and succeeds C. E. Campbell, who becomes general manager.

George D. Bates, treasurer, reelected. A banker of Akron, Ohio.

Mr. F. E. Meyers, the newly elected director, is a prominent manufacturer of Ashland and is most favorably known in business circles throughout northern Ohio.



GEORGE WATKINSON.

MR. WATKINSON GOES WITH ALDEN & CO.

MR. GEORGE WATKINSON, whose portrait appears on this page, has become connected with the house of George A. Alden & Co. (Boston), the oldest crude rubber merchants in the country. Mr. Watkinson himself is by no means new to the rubber trade, though hitherto his relation to it has been in the manufacture and distribution of goods. He is, in fact, so widely known among rubber men that his portrait would be recognized by very many of our readers without the aid of any label.

THE GREAT WESTERN RUBBER CO.

THE assets of the Kansas Rubber Co. (Olathe, Kansas) have been transferred to The Great Western Rubber Co., a new corporation, with larger capital, who are increasing the capacity of the factory and installing additional machinery. An equipment for making automobile inner tubes will be put in, and the production will include mechanical goods. The Kansas Rubber Co. was incorporated in the latter part of 1905. Olathe, the location of the factory, is about 20 miles from Kansas City, Missouri.

W. D. ALLEN MANUFACTURING CO.'S FIRE.

THE fire in the warehouse of the W. D. Allen Manufacturing Co. (Chicago), on August 15, did not seriously interfere with the business of the firm, being confined entirely to the annex at No. 153 Lake street, where the upper floors were burned out. The main building, at No. 151 Lake street, was saved by a fire wall and underwriters' doors which protected the openings. The distribution of stock was such that no one line of goods was entirely consumed, and the firm were doing business as usual the morning after the fire. The brass manufacturing department, also the packing department and considerable merchandise, had just been removed to the fine new building of the firm on Western avenue, so that the loss was less on this account than it otherwise would have been. The firm carried full insurance.

OMAHA RUBBER CO.—CHANGE OF NAME.

THE Omaha Rubber Shoe Co. (Omaha, Nebraska), who were mentioned lately in these pages as having put in stock "everything

in rubber," have thought it advisable to drop the name "Shoo" and in future will conduct their business under the name Omaha Rubber Co. New articles of incorporation were filed on July 12, recording the change, signed by Edward H. Sprague, president of the company; Carroll S. Montgomery, and Matthew A. Hall. The authorized capital is \$150,000.

NEW CONSTRUCTION AT STAMFORD.

The Stamford Rubber Supply Co. (Stamford, Connecticut) have purchased land on which to erect a new and larger factory, for which plans have been drawn. The building will be 75 x 90 feet, two stories, with gravel roof. The company for some time past have been in the position of not being able to manufacture supplies on a sufficiently large scale to keep pace with their orders.

THE FISK RUBBER CO. IN NEW YORK.

The new building erected for the use of The Fisk Rubber Co. (Chicopee Falls, Massachusetts) for their branch in New York.



THE FISK RUBBER CO.'S NEW YORK BRANCH.

at No. 1725 Broadway, is illustrated on this page. It is a two-story building, the exterior trimmed in bronze and the interior with dark stained woodwork, including hardwood floors, and the walls decorated with Japanese leather. The repair shop, located in the rear of the first floor, is one of the most complete in the country. The offices are on the second floor.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending August 26:

COMMON STOCK.				
Week	July 20	Sales 1900 shares	High 367 8	Low 35 1/2
Week	Aug. 5	Sales 1940 shares	High 36	Low 34
Week	Aug. 12	Sales 3550 shares	High 35 1/2	Low 30
Week	Aug. 19	Sales 4105 shares	High 29 3/4	Low 27 1/2
Week	Aug. 26	Sales 785 shares	High 305 8	Low 29
For the year High, 52 1/2, Feb. 16; Low, 27 1/2, Aug. 13.				

FIRST PREFERRED STOCK.				
Week	July 20	Sales 1728 shares	High 90 1/4	Low 97 3/4
Week	Aug. 5	Sales 1562 shares	High 98	Low 97
Week	Aug. 12	Sales 2030 shares	High 98	Low 96
Week	Aug. 19	Sales 2060 shares	High 95	Low 85 1/2
Week	Aug. 26	Sales 4240 shares	High 88 1/2	Low 85
For the year High, 109 7/8, Jan. 7; Low, 85, Aug. 26.				

SECOND PREFERRED STOCK.				
Week	July 20	Sales — shares	High —	Low —
Week	Aug. 5	Sales 100 shares	High 66	Low 66
Week	Aug. 12	Sales 150 shares	High 65	Low 65
Week	Aug. 19	Sales 2580 shares	High 63 1/4	Low 60
Week	Aug. 26	Sales 100 shares	High 61 1/2	Low 61 1/2
For the year High, 78 1/4, Jan. 7; Low, 60, Aug. 15.				

SYSTEM IN DEALING WITH SUPPLIES.

"The Work of the Supply Department," a paper read before the Telephone Society of New York by Mr. D. C. Cox, of the

New York Telephone Co. is a study of the constitution and functions of the supply department of that important corporation. They rightly regard the supply department (which includes purchasing) as among the most important in their organization, but it is not more important in the telephone business than in every factory. Mr. Cox' paper is mentioned here, therefore, with a view to calling it to the attention of the management of every rubber factory where system is appreciated, and commending the study of it as well worth while.

But Mr. Cox's paper is of interest from another point of view. No purchasing agent has so clearly brought out before the idea that, in buying supplies, the item of first importance is quality; second, promptness of delivery, and third, price. He regards it as a mistaken policy to put price foremost in considering whether or not to make a given purchase.

TRADE NEWS NOTES.

The Peerless Rubber Manufacturing Co. (New York) have added another agency to their list in the southern trade—No. 113 Main street, Houston, Texas.

Rockland Elastic Fabric Co. (Rockland, Massachusetts), organized early this year with \$10,000 capital, have taken larger premises, to accommodate their growing business. Chester Woodward is president, George A. Woodward treasurer, and C. D. Stringer secretary.

The Warren Rubber Co. (Warren, Ohio), wholesalers of rubber footwear, have increased their capital to \$80,000. The company were incorporated early in 1897 with \$20,000 capital, which was increased two years ago to \$50,000.

Morgan & Wright (Detroit, Michigan), among the other accessories for the automobile, manufacture a full line of battery jars.

The New England agency for the line of rubber heels made by the Goodyear Rubber Co., at Middletown, Connecticut, has been taken by Locke Brothers Co., No. 431 Albany building, Boston, dealers in supplies for the shoe trade.

J. Loewenthal & Sons, waste rubber merchants, of Chicago, announce to dealers in the East and the middle West that they have established a branch office and warehouse in New York, at No. 59 West street.

The B. & R. Rubber Co.'s plant (North Brookfield, Massachusetts) has been equipped with hydrants, connecting with the large water pipes recently extended to their yard.

The proceedings in the matter of the Electric Rubber Manufacturing Co., mentioned in the last issue of this paper (page 354) as having been announced for July 29 in the court at Jersey City, were adjourned to September 9. They relate to the claims against the bankrupt estate by the Manhattan Storage Co. (New York).

Joseph E. Knox & Co. (Lynn, Massachusetts), suppliers of cutting dies for the rubber industry, have removed to a larger factory, at No. 22 Sea street.

The Raino Co. (No. 735 South Halstead street, Chicago) has been formed for the manufacture of the "Raino" waterproof garments a line in which a considerable trade has been developed by another firm. Rubber is not used in the waterproofing.

A report published in certain Western newspapers that the Goshen Rubber Works (Goshen, Indiana) had ceased to do business proves to be without foundation.

What is claimed to be the lowest score ever made by any golfer, in open competition, was made by Gilbert Nichols in the Van Cortlandt tournament, at New York, using a "silk pneumatic" ball made by the Goodyear Tire and Rubber Co. The score was 72 holes in 286.

The Boston Belting Co., manufacturers of mechanical rubber goods of all kinds, are sending to their friends in the trade one of "King's Booklets," containing good views of the new railroad tunnels and terminals which are being constructed under nearly every part of New York city.

NEW INCORPORATIONS.

The Safety Rubber Heel Co., June 20, 1907, under the California laws; capital, \$25,000. Incorporators: F. Blair Turpin, Mill Valley, Cal.; Francis M. Wright and Crystal L. Howe, San Francisco. Place of business: San Francisco.

The W. D. Newerf Rubber Co. has been incorporated under the laws of California, with \$100,000 capital, full paid, to succeed to the business of W. D. Newerf, Pacific Coast representative for the tires of the Goodyear Tire and Rubber Co. The new company has opened a store in San Francisco and one in Fresno, Cal., and agents appointed in San Diego, Riverside, Portland, Seattle, and Honolulu. Al. Leonard is the head of the San Francisco house, and George Elman the Fresno manager.

Caldwell Belting and Rubber Co., of Minneapolis, August 12, 1907, under the Minnesota laws; capital, \$25,000; to deal in the class of goods described. John Caldwell (Cincinnati), president; A. H. Brockman, vice president; D. F. Taylor, secretary; F. E. Satterlee, treasurer.

TRADE NEWS NOTES.

Work was resumed at the factories of the Boston Rubber Shoe Co. on Monday, August 12, after a summer shutdown of two weeks.

A dealer in waste material at St. John's, Newfoundland, is reported by a local newspaper to have made a recent shipment to New York of 18 tons of old rubber shoes, on which his net profit was about \$1,800.

The annual picnic of employees of The B. F. Goodrich Co., on August 3, at Silver Lake, near Akron, was attended by more than 10,000 persons. There was an attractive program of sports, and the occasion was voted the most enjoyable in the history of Goodrich picnics.

The directors of the Boston Woven Hose and Rubber Co. have declared the semi-annual dividend of \$4 per share on the common stock, payable September 10, 1907, to stockholders of record September 5.

The Electric Cable Co. (New York) have purchased the business of the Eastern Electric Cable and Wire Co., makers of rubber covered wires, at Roxbury, Massachusetts, and will combine the equipment with their factory at Bridgeport, Connecticut.

The Knox Automobile Co. (Springfield, Massachusetts) have made a voluntary assignment, for the benefit of creditors. A reorganization is hoped for, and the plant has not been closed. The assignment is to Alfred N. Mayo (treasurer of The Fisk Rubber Co.), as trustee.

In spite of the fact that the flat tread has captured many tire makers, the G & J Tire Co. are making an oval raised tread, and hold that it is not only scientific in design, but that it has more real value to the motorists than the other type.

The "Glidden trophy" was won this year by the Buffalo Automobile Club, all of whose cars were fitted with Goodrich tires. Goodrich tires likewise won the two previous Glidden tours.

In the recent Glidden tour, from Cleveland to New York, 1510 miles, run in twelve days, 33 of the cars, equipped with Diamond tires, used a total of only 140 tires, including original equipment. That is, only 14 extra tires were called for.

The "Blizzard" tire case, made by The Vehicle Apron and Hood Co. (Columbus, Ohio), is adjustable in length and in width, so as to accommodate tires of different sizes.

Smith & Mabley (New York) send a letter to the trade saying that they have decided to equip their Simplex cars for 1907 with Continental tires.

The Firestone Tire and Rubber Co. are putting a new tire on the market which is designed effectually to prevent skidding. It is a large tire and intended for use on heavy machines. The "Dual Tread" has two ridges of rubber projecting from its surface, the outer edges of which are placed about three inches apart and they rise a half-inch above the boot of the tire.

FIRESTONE ANNUAL MEETING.

The annual meeting of shareholders of the Firestone Tire and Rubber Co. (Akron, Ohio) was held in the company's offices on August 21. The annual statement showed larger sales than in any former year. The board was reelected, consisting of H. S. Firestone, Will Christy, R. J. Firestone, A. C. Miller, and L. E. Sisler. The officers were also reelected: H. S. Firestone, president and general manager; Will Christy, vice-president; S. G. Carkhuff, secretary; L. E. Sisler, treasurer. A new office, assistant treasurer, was created, and filled by the election of F. R. Talbott. The shareholders made a tour of the plant, noting particularly the important new buildings.

REINFORCED HARD RUBBER CO.

ALL the property of the bankrupt Reinforced Hard Rubber Co., at Nos. 62-68 Howell street, Jersey City, New Jersey, was sold at public auction by the trustee, on August 23, in bulk, to E. G. Baetjer, William J. Strauss, and J. Leibstein & Son, all of Baltimore, for \$12,650, subject to confirmation by the court. The company was incorporated under the Delaware laws March 13, 1905, to manufacture hard rubber goods, under patents granted to Dr. W. R. Sine, of Williamsport, Pennsylvania. The factory was not long operated, and early in this year the company was placed in the hands of receivers. At various times there have been reports that a reorganization was contemplated, with capital to be supplied by some of the Baltimore parties named above, and the removal of the business to the latter city.

RUBBER PLANTING COMPANY MEETING.

THE annual meeting of shareholders of La Nueva Providencia Rubber Co. was held on August 21 at Providence, Rhode Island. The meeting was held at the Warwick Club, where luncheon was served, followed by an elaborate shore dinner. The officers were reelected: Edward M. Holmes, president; Leo F. Nadeau, secretary and treasurer; Clyde E. Gardner, general manager on the estate in Guatemala.

TRADE NEWS NOTES.

THE financial affairs of the Pope Manufacturing Co., the assignment of which is reported in another column, are to be investigated by a committee of five, appointed at a meeting of creditors held in Chicago on August 22. The committee will report at another meeting to be held in New York. The creditors represented have claims aggregating \$2,000,000.

Richard C. Smith has been appointed sales agent of The Safety Insulated Wire and Cable Co. (New York), in place of Avery P. Eckert, resigned, and appointed R. C. Wilson his assistant. Mr. Eckert has been appointed general sales manager of the Duplex Metals Co. (New York), makers of Monnot metals.

Mr. C. H. Arnold, of the firm of Poel & Arnold, after a vacation at his country place in Stoneham, Massachusetts, covering some two months, in which he successfully garnered some 60 loads of hay, is back at the New York office, while Mr. E. E. Wadbrook, who has charge of the Boston end of the same house, has gone to Europe for a vacation.

Among the delegates to the international congress of zoology held recently at Boston was Dr. Emil A. Goeldi, who resigned in April the post of director of the Pará museum, which he was instrumental in founding. Dr. Goeldi still holds an honorary relation to the museum, and was its representative at the Boston congress. The delegates visited New York in a body.

Sir David Morris, K.C.M.G., of Barbados, commissioner of agriculture for the British West Indies, was in New York during part of the past month.

Robert E. Tyson, of Bridgeport, Connecticut, is about opening a factory for rubber substitutes at Fairfield, Conn., to be equipped with the latest machinery and have a capacity of two or three tons per day.

G. H. Proctor Supply Co., Nos. 31-33 Stanhope street, Boston, have taken the New England agency for the tires made by the Republic Rubber Co. (Youngstown, Ohio).

STATISTICS OF RUBBER PRODUCTION.

THE figures below, derived from official sources, show an increased rate of output from the three countries referred to, which is a different showing from that of the regions reported on last month [page 340]:

MADAGASCAR.

	Pounds.
1903	1,284,204
1904	1,902,410
1905	1,989,255
1906	2,782,481

SOUTHERN NIGERIA PROTECTORATE (BRITISH WEST AFRICA).

	Pounds.		Pounds.
a 1896-97	386,131	1901	1,749,150
a 1897-98	502,300	1902	805,834
a 1898-99	874,208	1903	1,177,803
a 1899-1900	1,450,507	1904	2,408,926
b 1900	2,251,315	1905	2,842,834

a—Fiscal years ending March 31.

b—The figures for the last three months of the fiscal year 1899-1900 are included also in the return for the complete calendar year 1900.

	1906	1907	Yards.
1898	87,600	960	898,280
1899	117,000	878	1,088,654
1900	117,000	974	1,430,450
1901	117,000	965	1,430,445

The firm of De Witt & Co. of Yokohama is engaged in the business of importing rubber for the rubber goods and insulated wire factories of Japan, and are in close touch with all the principal buyers of the material. They will be in good connections with suppliers of such material in the United States and may be addressed through Postoffice box 114, Yokohama, Japan.

The writer of some excellent stories of home life in and about Tula, appearing in *Modern Mexico*, is the wife of Mr. J. Herbert Foster, manager of the plantation of the Meriden Rubber Planting Corporation, in the state of Vera Cruz.

Review of the Crude Rubber Market.

THE market for rubber of all sorts has been quiet during the past month, which closed with quotations lower than at our preceding report. That is, prices were lower for Pará grades—in fact, down to the level reported on July 1—but no change was quotable on several grades of Africans and Centrals. It is a notable fact that some African sorts are now quoted at the same figure as Islands fine Pará. The explanation doubtless will be found in the fact that whereas the last Pará crop was the largest ever recorded, certain African rubbers, Lopori, for example—are coming to the market in reduced quantities.

The new Pará crop does not compare favorably, thus far, with previous years, as these figures (embracing Pará rubber and Caucho, in tons) will indicate:

	1904	1905	1906	1907
July	1250	1450	1840	1320
August	1260	1300	1600	21360
Total	2510	2750	3530	2680

[a—To August 28, 1907.]

At the last Antwerp sales (August 9) about 605 tons were offered, of which 492 tons found buyers, at an average below estimations of about 14 centimes, or $1\frac{1}{2}$ per cent. The decline was not general, however, and the feeling prevails at Antwerp that a higher level will prevail soon. The same sentiment is shared in the New York market, based upon the idea that more liberal buying is due in the near future, when a firmer condition of the market may be looked for.

The next Antwerp sale is announced for September 19. Arrivals at Antwerp during the first seven months of 1907 amounted to 3102 tons, against 3356 tons in the same months last year and 3210 tons up to July 30, 1905. The arrivals from the Congo Free State, however, were larger than in the same period of either 1906 or 1905.

Following is a statement of the prices of Pará grades, one year ago, one month ago, and August 29 of this date:

PARÁ.	Sept. 1, '06.	Aug. 1, '07.	Aug. 29.
Islands, fine, new	119 @120	107 a 108	105 a 106
Islands, fine, old	none here	none here	none here
Upriver, fine, new	124 @125	115 a 116	110 a 114
Upriver, fine, old	126 @127	117 a 118	113 a 114
Islands, coarse, new	66 1/2 a 67	62 a 63	59 a 60
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	91 1/2 a 92	90 a 91	87 a 90
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian), sheet ..	75 @ 76	71 a 72	70 a 71
Caucho (Peruvian), ball ..	90 @ 91	90 a 91	88 a 89
Ceylon, fine, sheet	142 @143	133 @ 134	133 @ 134

AFRICAN.

Sierra Leone, 1st quality	99 a 100	Lopori ball, prime ..	105 a 106
Massai, red	99 a 100	Lopori strip, prime ..	99 a 100
Benguella	70 a 71	Madagascar, pinky ..	83 a 84
Accra flake	91 1/2	Ikelimba	none here
Cameroon ball	74 a 75	Soudan, muggers	85 a 86

CENTRALS.

Esmeralda, sausage	82 a 83	Mexican, scrap	81 a 82
Guayaquil, strip	71 a 72	Mexican slab	64 a 65
Nicaragua, scrap	80 a 81	Mangabeira, sheet	50 a 60
Panama, slab	63 a 64	Guayule	45 a 48

EAST INDIAN.

Assam	95 a 96	Borneo	36 a 37
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Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	5\$100	Upriver, fine.....	6\$050
Islands, coarse.....	2\$700	Upriver, coarse.....	4\$700
		Exchange	15 1/4 d.

Latest Manãos advices:

Upriver, fine	6\$800	Upriver, coarse	3\$600
		Exchange	15 9/32 d.

NEW YORK PRICES FOR MAY (NEW RUBBER).

	1907.	1906.	1905.
Upriver fine	1.12 a 1.16	1.24 a 1.26	1.31 a 1.35
Upriver coarse	88 a 92	90 a 93	95 a 97
Islands fine	1.10 a 1.15	1.21 a 1.23	1.29 a 1.32
Islands coarse	62 a 67	65 a 71	73 a 76
Cametá	70 a 72	70 a 73	78 a 81

NEW YORK PRICES FOR JUNE (NEW RUBBER).

	1907.	1906.	1905.
Upriver, fine	1.08 a 1.12	1.23 a 1.25	1.30 a 1.35
Upriver, coarse	80 a 88	90 a 92	94 a 97
Islands, fine	1.04 a 1.10	1.19 a 1.22	1.28 a 1.33
Islands, coarse	61 a 63	65 a 66	72 a 76
Cametá	70 a 71	70 a 72	74 a 80

NEW YORK PRICES FOR JULY (NEW RUBBER).

	1907.	1906.	1905.
Upriver, fine	1.08 a 1.15	1.22 a 1.24	1.28 a 1.31
Upriver, coarse	80 a 90	89 a 91	92 a 95
Islands, fine	1.04 a 1.08	1.18 a 1.20	1.25 a 1.28
Islands, coarse	61 a 64	64 a 65	68 a 71
Cametá	70 a 71	69 a 71	74 a 76

In regard to the financial situation, Albert B. Boers (broker in india rubber and commercial paper, No. 48 William street, New York) advises me: "During August the paper market has not been in condition to admit of paper selling freely, and there has been only a very limited demand from a few of our banks, at anywhere from 6 to 8 per cent. for the usual term of rubber names."

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.					
	Fine and Medium.		Coarse.	Total 1907.	Total 1906.	Total 1905.
Stocks, June 30	<i>Tons</i> 231		72 =	303	191	594
Arrivals, July...	400		286 =	686	980	297
Aggregating	640		358 =	998	1171	891
Deliveries, July...	413		295 =	708	1024	474
Stocks, July 31	227		63 =	290	147	417
	PARA			ENGLAND.		
	1907.	1906.	1905.	1907.	1906.	1905.
Stocks, June 30... <i>Tons</i>	170	130	160	950	905	485
Arrivals, June...	1000	1300	1420	525	400	580
Aggregating	1260	1330	1580	1475	1305	1065
Deliveries, June...	1005	954	1340	800	515	675
Stocks, July 30	165	376	240	675	790	390
	1907.			1906.		
World's visible supply, July 31..... <i>Tons</i>	1650			1841		
Para receipts, July 1 to July 31.....	1090			1300		
Para receipts, Caucho, same dates.....	230			350		
Altoat Para to United States, July 31....	100			193		
Altoat Para to Europe, July 31.....	420			335		

London:

AT THE AUCTIONS
LONDON, August 9.—About 45 tons of plantation rubber offered—10 from Ceylon and 35 from the Malay States—the prin-

Rubber Scrap Prices.

NEW YORK quotations, prices paid by consumers for carload lots, per pound—show practically no change:
Old rubber boots and shoes—domestic 117 1/2 @ 12
Old rubber boots and shoes—foreign 103 1/2 @ 11
Pneumatic bicycle tires..... 7 1/2 @ 7 3/4
Automobile tires..... 9 3/4 @ 10
Solid rubber wagon and carriage tires..... 10 @ 10 1/4
White trimmed rubber..... 12 1/2 @ 12 3/4
Heavy black rubber..... 5 3/4 @ 6
Air brake hose..... 4 3/4 @ 5
Fire and large hose..... 3 5/8 @ 3 3/4
Garden hose..... 2 1/2 @ 2 3/4
Matting..... 1 1/2 @ 1 5/8

cipal part finding buyers. The highest price paid was 5s. 10d [= \$1.4178] for Ceara biscuits from Rangbodde estate. There were a few parcels of exceptionally fine crepe, which realized 5s. 8d. [= \$1.3758]. Three cases of *Castilloa* plantation from the West Indies brought 3 shillings [= 73 cents] per pound. Hard fine Para to-day, 4s 9 1/2 d [= \$1.1612]

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

JULY 14. By the steamer <i>Cuthbert</i> , from Manaus and Para.		IMPORTERS.				Total.
		Fine.	Medium.	Coarse.	Caucho.	
Poel & Arnold.....		37,100	12,500	54,600	.....	98,200
General Rubber Co.....		36,900	4,700	42,200	12,100	95,900
New York Commercial Co.....		50,200	9,500	16,700	5,900	82,300
Edmund Reeks & Co.....		29,700	2,100	27,700	3,500	54,000
A. T. Morse & Co.....		19,300	1,100	18,600	2,900	32,900
Hagemeyer & Brunn.....		12,500	.....	5,300	.....	17,800
Neale & Co.....		5,800	300	9,200	.....	15,300
C. P. dos Santos.....		.....	.....	4,600	.....	4,600
Total.....		167,500	30,200	178,900	24,400	401,000
Avg. 1.—By the steamer <i>Cuthbert</i> , from Manaus and Para						
Poel & Arnold.....		34,300	14,900	10,900	300	60,400
A. T. Morse & Co.....		9,300	1,800	35,700	2,100	47,900
General Rubber Co.....		.....	.....	36,300	.....	36,300
Edmund Reeks & Co.....		.....	.....	35,600	.....	35,600
Hagemeyer & Brunn.....		8,200	.....	9,900	.....	18,100
New York Commercial Co.....		7,100	1,100	2,600	.....	10,800
Neale & Co.....		700	.....	3,300	.....	4,000
C. P. dos Santos.....		.....	.....	2,600	.....	2,600
Total.....		59,600	17,800	136,900	1,400	215,700
JULY 14. By the steamer <i>Maranhao</i> , from Manaus and Para:						
General Rubber Co.....		61,000	5,300	71,800	600	138,700
New York Commercial Co.....		46,600	7,500	15,500	5,000	74,600
A. T. Morse & Co.....		28,100	300	5,900	23,500	57,800
Hagemeyer & Brunn.....		29,300	.....	20,500	.....	49,800
Edmund Reeks & Co.....		11,800	1,400	22,400	.....	35,600
Poel & Arnold.....		.....	8,900	21,400	.....	30,300
Neale & Co.....		2,200	300	21,500	.....	24,000
Total.....		170,000	23,700	179,000	26,100	401,800
AUGUST 24. By the steamer <i>Horatio</i> , from Manaus and Para:						
General Rubber Co.....		38,800	16,300	43,800	2,100	101,000
New York Commercial Co.....		19,800	12,300	19,500	2,700	74,300
Poel & Arnold.....		34,300	13,100	11,500	500	59,400
C. P. dos Santos.....		2,800	9,600	9,200	.....	41,600
Edmund Reeks & Co.....		10,400	1,000	17,000	.....	29,300
Neale & Co.....		1,400	400	29,500	.....	22,300
A. T. Morse & Co.....		9,400	2,600	200	500	12,700
Hagemeyer & Brunn.....		5,400	.....	4,600	.....	19,000
Total.....		162,300	55,300	127,200	5,800	350,600

[NOTE.—The steamer *Madeira*, from Para, is due at New York on September 3, with 115 tons of rubber.]

PARA RUBBER VIA EUROPE.

JULY 24.—By the <i>Carima</i> —Liverpool.		POUNDS.	
New York Commercial Co (Fine).....	67,000		
New York Commercial Co (Coarse).....	70,000		
Poel & Arnold (Medium).....	22,500		
Poel & Arnold (Coars).....	12,500		
Poel & Arnold (Caucho).....	5,500		
General Rubber Co (Caucho).....	11,500	145,000	
JULY 25.—By the <i>President Lincoln</i> —Hamburg:			
New York Commercial Co (Fine).....	11,500		
New York Commercial Co (Coarse).....	10,000	21,500	
JULY 26.—By the <i>Netherlandien</i> —Cudad Bolivar:			
Thebaud Brothers (Fine).....	28,000		
Thebaud Brothers (Coarse).....	12,000	43,000	
JULY 31. By the <i>Arabia</i> —Liverpool:			
New York Commercial Co (Coarse).....	6,500		
Avg. 1. By the <i>Georgie</i> —Liverpool:			
New York Commercial Co (Fine).....	31,000		
Arama, Bergman Co (Caucho).....	15,000	96,000	
Avg. 3.—By the <i>Balta</i> —Liverpool:			
New York Commercial Co (Medium).....	19,500		
Poel & Arnold (Medium).....	2,000	23,500	
Avg. 3.—By the <i>Hilfence</i> —Hamburg:			
New York Commercial Co (Fine).....	8,500		
New York Commercial Co (Caucho).....	9,000	37,500	
Avg. 6.—By the <i>Coler</i> —Milled:			
New York Commercial Co (Fine).....	7,000		
A. D. Hitch & Co (Fine).....	12,000		
F. Rosenstein & Co (Fine).....	25,000	45,000	
Avg. 7.—By the <i>Carmichael</i> —Bahia:			
Poel & Arnold (Medium).....	7,000		
Poel & Arnold (Coarse).....	4,500	11,500	
Avg. 9.—By the <i>Pinto</i> —Bahia:			
Amstuck & Co (Fine).....	14,000		
Amstuck & Co (Coarse).....	20,000	54,000	

Aug. 13.—By the *Bign*—Liverpool:

Poel & Arnold (Coarse)..... 9,000

Arama, Bergman Co (Caucho)..... 22,500 31,500

Avg. 21.—By the *Carima*—Liverpool:

General Rubber Co (Caucho)..... 34,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.		POUNDS.	
JULY 22. By the <i>El Cid</i> —Galveston.			
Continental-Mexican Rubber Co.....		22,500	
JULY 23. By the <i>Pinar</i> —Colon:			
Henry Mann & Co.....	8,500		
Brunner, Mohle & Co.....	5,000		
Huzel, Feltman & Co.....	4,000		
G. Amstuck & Co.....	2,000		
Mattland, Coppel & Co.....	2,500		
L. Johnson & Co.....	2,000		
Dematist Bros. & Co.....	1,000	25,000	
JULY 23. By the <i>Leopold</i> —Bahia:			
Poel & Arnold.....	23,000		
American Commercial Co.....	27,000		
A. Hirsch & Co.....	22,000		
J. H. Rossback & Bros.....	15,000		
New York Commercial Co.....	5,000	92,000	
JULY 24. By the <i>Seguine</i> —Colon:			
New York Commercial Co.....	5,000		
JULY 24. By the <i>Carima</i> —Liverpool:			
Poel & Arnold.....	11,500		
JULY 24. By the <i>El Cid</i> —Galveston:			
Continental-Mexican Rubber Co.....	22,500		
JULY 24. By the <i>Leopold</i> —Bahia:			
G. Amstuck & Co.....	4,500		
De Lima Cortes & Co.....	2,000		
Kunhardt & Co.....	1,000		
A. Rosenthal's Sons.....	1,000		
Frame & Co.....	1,000		
L. Brandon & Bros.....	1,000		
Esteban Gorgorza & Co.....	1,000		
Aramburg, Incorporated.....	1,000	12,500	

CENTRALS—Continued.

JULY 27. By the <i>Mexico</i> —Frontera:		POUNDS.	
W. Loaiza & Co.....	7,000		
Harburger & Stack.....	4,500		
E. Steiger & Co.....	4,500		
Graham, Hinkley & Co.....	2,000		
H. Marquardt & Co.....	1,000		
Thebaud Brothers.....	1,000		
American Trading Co.....	500	20,500	
JULY 29. By the <i>Brunswick</i> —Colon:			
New York Commercial Co.....	9,500		
G. Amstuck & Co.....	2,000		
L. Brandon & Bros.....	2,000	13,500	
JULY 29. By the <i>Creole</i> —New Orleans:			
A. N. Rotholz.....	4,000		
A. T. Morse & Co.....	4,000	8,000	
JULY 31. By the <i>Joazeiro</i> —Columbia:			
D. A. De Luna & Co.....	3,500		
G. Amstuck & Co.....	3,000		
L. Brandon & Bros.....	2,000		
M. Blanche.....	1,000		
Kunhardt & Co.....	1,000	10,500	
Avg. 1. By the <i>Obidense</i> —Ceara:			
Emile Paris.....	4,000		
Avg. 3.—By the <i>El Mar</i> —Galveston.			
Continental-Mexican Rubber Co.....	22,500		
Avg. 3. By the <i>Seguine</i> —Mexico:			
Harburger & Stack.....	4,000		
E. Steiger & Co.....	2,500		
F. N. Tibbals.....	2,500		
H. Marquardt & Co.....	2,500		
Graham, Hinkley & Co.....	500	12,000	
Avg. 5.—By the <i>Calderon</i> —Bahia:			
Poel & Arnold.....	40,000		
New York Commercial Co.....	9,000		
J. H. Rossback & Bros.....	4,000	53,000	
Avg. 5.—By the <i>Momus</i> —New Orleans:			
Manhattan Rubber Mfg. Co.....	2,000		
Andreas & Co.....	1,000		
Egbert & Heinlein.....	500	3,500	

CENTRALES -Continued.

Aug. 5.—By the <i>El Alba</i> —Galveston:	
Continental-Mexican Rubber Co.	*22,500
Aug. 6.—By the <i>Colón</i> —Colon:	
G. Amsinck & Co.	23,000
New York Commercial Co.	4,000
I. Brandon & Bros.	3,500
Demarest Bros. Co.	3,500
A. Santos & Co.	2,000
L. Johnson & Co.	2,000
Hirzel, Feltman & Co.	1,000
Pablo, Calvet Co.	1,000
Columbian Trading Co.	1,000
M. Hecht	1,000
Andreas & Co.	1,000
Aug. 6.—By the <i>Eitel Frederick</i> —Colombian ports:	
New York Commercial Co.	6,000
A. Held	5,000
Leanz & Co.	2,500
Ochoa & Osorio	2,000
Kunhardt & Co.	2,000
I. A. Pauli & Co.	2,000
American Trading Co.	1,000
I. Brandon & Bros.	1,000
Aug. 7.—By the <i>El Norte</i> —Galveston:	
Continental-Mexican Rubber Co.	*22,500
Aug. 7.—By the <i>Antilla</i> —Tampico:	
Ed. Maurer	*40,000
New York Commercial Co.	*28,000
Continental-Mexican Rubber Co.	*22,500
Aug. 9.—By the <i>Pennsylvania</i> —Hamburg:	
Poel & Arnold	17,500
Aug. 10.—By the <i>Merida</i> —Frontera:	
E. Steiger & Co.	2,000
Graham, Hinkley & Co.	2,000
Harburger & Stack	1,000
H. Marquardt & Co.	1,000
Aug. 12.—By the <i>El Día</i> —New Orleans:	
Manhattan Rubber Mfg. Co.	8,500
A. T. Morse & Co.	6,500
A. N. Rotholz	7,000
Aug. 12.—By the <i>Advance</i> —Colon:	
G. Amsinck & Co.	5,500
Hirzel, Feltman & Co.	3,500
New York Commercial Co.	3,000
Maldonado & Co.	1,500
Henry Mann & Co.	1,500
A. Santos & Co.	500
Aug. 12.—By the <i>Bayamo</i> —Tampico:	
New York Commercial Co.	*80,000
Continental-Mexican Rubber Co.	*50,000
Ed. Maurer	*40,000
Harburger & Stack	*2,000
Aug. 14.—By the <i>Cruzeiro</i> —Bahia:	
A. Hirsch & Co.	*15,500
Aug. 14.—By the <i>Mag. Wilhelm</i> —Colombia:	
D. A. De Lima & Co.	2,500
H. W. Peabody & Co.	2,500
Suzarte & Whitney	1,000
Andreas & Co.	1,000
Frame & Co.	1,000
Graham, Hinkley & Co.	1,000
Aug. 16.—By the <i>Panama</i> —Colon:	
G. Amsinck & Co.	10,500
Roldan & Van Sickle	6,000
New York Commercial Co.	4,500
Hirzel, Feltman & Co.	4,500
Demarest Bros. Co.	2,000
L. Johnson & Co.	1,500
Jose Julia & Co.	1,000
Aramburo, Incorporated	1,000
A. Santos & Co.	500
E. B. Strout	500
Aug. 16.—By the <i>El Siglo</i> —Galveston:	
Continental-Mexican Rubber Co.	*75,000
Aug. 19.—By the <i>Vigilante</i> —Tampico:	
Edward Maurer	*56,000
Aug. 20.—By the <i>Dunbar</i> —Colon:	
Piza, Nephews Co.	3,000
Ochoa & Osorio	4,000
Aug. 20.—By the <i>Spartan Prince</i> —Bahia:	
Poel & Arnold	15,000
New York Commercial Co.	9,000
J. H. Rossback & Bros.	9,000
Aug. 21.—By the <i>Sigmond</i> —Colon:	
Hirzel, Feltman & Co.	7,000
L. Johnson & Co.	1,500
G. Amsinck & Co.	1,500
Suzarte & Whitney	1,000
Aug. 21.—By the <i>Byron</i> —Bahia:	
General Rubber Co.	33,500
A. Hirsch & Co.	11,500
Poel & Arnold	3,500
Aug. 22.—By the <i>El Alba</i> —Galveston:	
Continental-Mexican Rubber Co.	*45,000
Aug. 23.—By the <i>Sarala</i> —Colombia:	
G. Amsinck & Co.	25,000
American Trading Co.	1,500

CENTRALES

De Lim, Cortes & Co.	6,000
Aug. 23.—By the <i>De Lim</i> —New York:	
G. Amsinck & Co.	8,000
*This item, in connection with the Central, denotes Granule rubber.	
AFRICANS	
July 25.—By the <i>De Lim</i> —New York:	
Livesey & Co.	12,000
George A. Alden & Co.	12,000
Poel & Arnold	12,000
July 24.—By the <i>De Lim</i> —New York:	
General Rubber Co.	15,000
July 24.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	12,000
Livesey & Co.	12,000
July 25.—By the <i>De Lim</i> —New York:	
Hamburg:	
A. T. Morse & Co.	6,000
George A. Alden & Co.	51,000
July 26.—By the <i>De Lim</i> —New York:	
A. T. Morse & Co.	6,500
July 27.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	57,000
July 27.—By the <i>De Lim</i> —New York:	
A. T. Morse & Co.	11,500
Livesey & Co.	2,500
George A. Alden & Co.	16,000
Poel & Arnold	9,000
July 30.—By the <i>De Lim</i> —New York:	
Robinson & Stiles	25,500
George A. Alden & Co.	19,000
Aug. 1.—By the <i>De Lim</i> —New York:	
General Rubber Co.	108,000
Poel & Arnold	15,000
George A. Alden & Co.	175,500
Aug. 3.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	50,000
A. T. Morse & Co.	90,000
Aug. 4.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	91,000
A. T. Morse & Co.	45,000
Aug. 5.—By the <i>De Lim</i> —New York:	
Poel & Arnold	7,000
W. L. Gough Co.	91,000
Aug. 6.—By the <i>De Lim</i> —New York:	
General Rubber Co.	7,000
Aug. 6.—By the <i>De Lim</i> —New York:	
Poel & Arnold	7,000
A. T. Morse & Co.	37,000
Rubber Trading Co.	15,000
Henry A. Gould Co.	20,000
Aug. 7.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	1,000
Livesey & Co.	5,000
Poel & Arnold	24,000
Aug. 8.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	7,000
Aug. 9.—By the <i>De Lim</i> —New York:	
A. T. Morse & Co.	11,500
Poel & Arnold	5,500
Rubber Trading Co.	43,000
W. L. Gough Co.	56,000
Aug. 10.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	42,000
Livesey & Co.	2,500
Aug. 13.—By the <i>De Lim</i> —New York:	
General Rubber Co.	7,000
Aug. 17.—By the <i>De Lim</i> —New York:	
A. T. Morse & Co.	8,000
W. L. Gough Co.	47,000
George A. Alden & Co.	3,000
Aug. 17.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	60,000
Livesey & Co.	7,000
Aug. 21.—By the <i>De Lim</i> —New York:	
General Rubber Co.	65,000
Poel & Arnold	12,000
George A. Alden & Co.	11,000
Livesey & Co.	54,000
FAST INDIAN	
July 22.—By the <i>De Lim</i> —New York:	
General Rubber Co.	7,000
July 24.—By the <i>De Lim</i> —New York:	
Poel & Arnold	7,000
A. T. Morse & Co.	7,000
Poel & Arnold	7,000
July 25.—By the <i>De Lim</i> —New York:	
Hebble & Co.	7,000
Aug. 1.—By the <i>De Lim</i> —New York:	
General Rubber Co.	7,000
Aug. 1.—By the <i>De Lim</i> —New York:	
W. L. Gough Co.	*14,000

EAST INDIAN

Aug. 5.—By the <i>De Lim</i> —New York:	
Poel & Arnold	7,000
Poel & Arnold	7,000
Aug. 6.—By the <i>De Lim</i> —New York:	
George A. Alden & Co.	7,000
A. T. Morse & Co.	*20,000
Aug. 6.—By the <i>De Lim</i> —New York:	
Poel & Arnold	20,000
H. Pauli	11,500
W. L. Gough Co.	5,500
Aug. 7.—By the <i>De Lim</i> —New York:	
A. T. Morse & Co.	*22,500
Aug. 12.—By the <i>De Lim</i> —New York:	
Hebble & Co.	15,000
Joseph Gough Co.	50,000
W. L. Gough Co.	11,000
Aug. 14.—By the <i>De Lim</i> —New York:	
General Rubber Co.	*15,500
Robinson & Stiles	2,500
Aug. 15.—By the <i>De Lim</i> —New York:	
Joseph Gough Co.	13,500
*Denotes Plantation Rubber	
GUTTA JELUTONG	
July 2.—By the <i>De Lim</i> —New York:	
M. Joachimsen	75,000
July 23.—By the <i>De Lim</i> —New York:	
William Tappanbach	15,000
July 25.—By the <i>De Lim</i> —New York:	
Hebble & Co.	250,000
William Tappanbach	225,000
George A. Alden & Co.	110,000
M. Joachimsen	325,000
Aug. 16.—By the <i>De Lim</i> —New York:	
Hebble & Co.	325,000
George A. Alden & Co.	300,000
W. L. Gough Co.	110,000
M. Joachimsen	110,000
Aug. 13.—By the <i>De Lim</i> —New York:	
A. T. Morse & Co.	30,000
Aug. 14.—By the <i>De Lim</i> —New York:	
W. L. Gough Co.	350,000
Hebble & Co.	150,000
George A. Alden & Co.	115,000
M. Joachimsen	10,000
Aug. 15.—By the <i>De Lim</i> —New York:	
Hebble & Co.	380,000
W. L. Gough Co.	300,000
I. H. Recknagel Co.	110,000
George A. Alden & Co.	110,000
Winter & Smullie	125,000
William Tappanbach	125,000
GUTTA PERCHA	
July 25.—By the <i>De Lim</i> —New York:	
Hebble & Co.	17,000
H. Pauli	35,000
Aug. 15.—By the <i>De Lim</i> —New York:	
Robert Schran	7,000
Aug. 16.—By the <i>De Lim</i> —New York:	
H. Pauli	22,500
Aug. 13.—By the <i>De Lim</i> —New York:	
Hebble & Co.	35,000
BALATA	
July 26.—By the <i>De Lim</i> —New York:	
Hebble & Co.	11,500
Aug. 1.—By the <i>De Lim</i> —New York:	
Frame & Co.	45,000
Aug. 9.—By the <i>De Lim</i> —New York:	
Middleton & Co.	15,000
Frame & Co.	9,000
A. T. Morse & Co.	3,000
George A. Alden & Co.	45,000
Aug. 9.—By the <i>De Lim</i> —New York:	
Edw. Amsinck & Co.	22,500
Aug. 12.—By the <i>De Lim</i> —New York:	
Frame & Co.	11,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK	Value
July 1906	\$3,353,367
July 1907	2,739,000
Gutta percha	6,400
Gutta jelutong	73,148
July 1907	\$2,636,664
July 1906	\$2,417,260
Reclaimed rubber	13,370
Rubber, soft, imported	\$28,224



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Liverpool:

WILLIAM WRIGHT & Co. report [August 1]:

Latex.—Owing to small receipts and an active demand, prices quickly advanced during the first half of the month, Bolivian fine touching 4s. 11d. and Upper fine 4s. 10½d., a large business being done spot and for delivery. The second half of the month prices fell away somewhat, chiefly owing to the absence of trade demand. Certificates for the whole of the crop has been forwarded to ports for shipment, consequently the receipts during the early months of the crop are not expected to reach 100,000 tons. If this is so, an advance in prices is more likely than a decline.

EDMUND SCHULTER & Co. report [July 31]:

Para Rubber.—Para grades were active during the first two weeks of July, and owing to speculative prices advanced about 3½d. per pound. Subsequently realizations and recovery selling by importers and speculators caused a decline, and the market closed quiet but steady. The decrease in July receipts and the possibility of only moderate supplies in August may cause increased demand by dealers and possibly some rise in prices during the near future. Later in the season the normal increase of supplies at the Amazon ports should make for a more even market, free from violent fluctuations.

World's Visible Supply of Para, July 31.

	1907.	1906.	1905.	1904.	1903.	1902.
Tons.....	2882	2830	2275	1665	2550	3334
Prices, hard, fine.....	4 10½	5 2½	5 6¼	4 11¾	4 0½	2 10½

LIVERPOOL STOCKS OF AFRICAN RUBBER, JULY 31.

1907.....	289	1904.....	473	1901.....	728
1906.....	388	1903.....	371	1900.....	823
1905.....	371	1902.....	516	1899.....	479

Plantation Rubber From the Far East.

CEYLON WEEKLY EXPORTS.

Week ending June 24—18,285 pounds; week ending July 1—15,800 pounds. Previously reported, 288,178; total since January 1—322,203 pounds. Total to and including July 1, deducting rubber not the produce of Ceylon, 202,636 pounds. Same months in 1906—130,607 pounds; same months 1905—49,773 pounds; same months 1904—35,200 pounds.

SHIPMENTS FROM THE STRAITS—JAN. 1 TO JUNE 30.

	Pounds.		Pounds.
Great Britain.....	537,600	Australia.....	14,267
Europe.....	41,134	Ceylon.....	76,267
United States.....	400		
Japan.....	23,594	Total.....	693,162

[From Singapore, 631,308; from Penang, 61,894.]

The above figures point to the total export of plantation rubber from Ceylon and the Malay peninsula for the first six months of the year amounting to 805,898 pounds. The total for 1906 was reported at 1,144,205 pounds and for 1905 at 397,047 pounds.

OFFICIAL STATISTICS OF RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1907.....	5,274,438	408,159	4,866,279
January-May.....	37,313,952	1,837,377	35,476,275
Six months, 1907.....	42,588,000	2,245,536	40,342,554
Six months, 1906.....	33,402,806	1,783,648	31,709,242
Six months, 1905.....	39,834,796	1,574,030	38,260,766

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1907.....	2,874,520	811,580	2,062,940
January-May.....	15,039,880	5,306,820	10,543,060
Six months, 1907.....	18,814,400	6,208,400	12,606,000
Six months, 1906.....	20,110,720	5,409,140	15,001,580
Six months, 1905.....	22,835,120	7,303,840	15,471,280

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1907.....	2,309,700	1,830,180	509,580
January-May.....	14,025,400	9,319,200	5,606,260
Six months, 1907.....	17,325,220	11,149,380	6,175,840
Six months, 1906.....	17,757,740	8,511,800	9,245,940
Six months, 1905.....	14,586,000	7,923,520	6,662,480

BELGIUM.†

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1907.....	1,289,710	1,038,780	250,930
January-May.....	8,094,402	5,133,052	2,961,350
Six months, 1907.....	9,384,112	6,171,832	3,212,280
Six months, 1906.....	10,137,705	6,053,004	3,784,671
Six months, 1905.....	8,847,080	6,623,102	2,223,984

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1907.....	4,933,712	3,102,112	1,741,600
January-May.....	39,932,339	17,344,320	19,588,019
Six months, 1907.....	41,866,048	20,536,432	21,329,616
Six months, 1906.....	34,477,714	18,736,480	15,741,264
Six months, 1905.....	32,078,688	18,032,680	14,046,008

NOTE. German statistics before Jan. 1, 1906, include gutta-percha, Balata, and caoutchouc rubber. British figures include all rubber. French, Austrian and Italian figures include gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce.

†Special Commerce.

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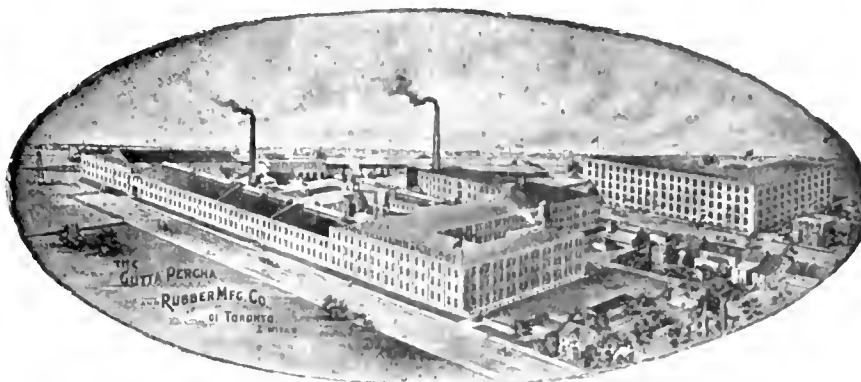
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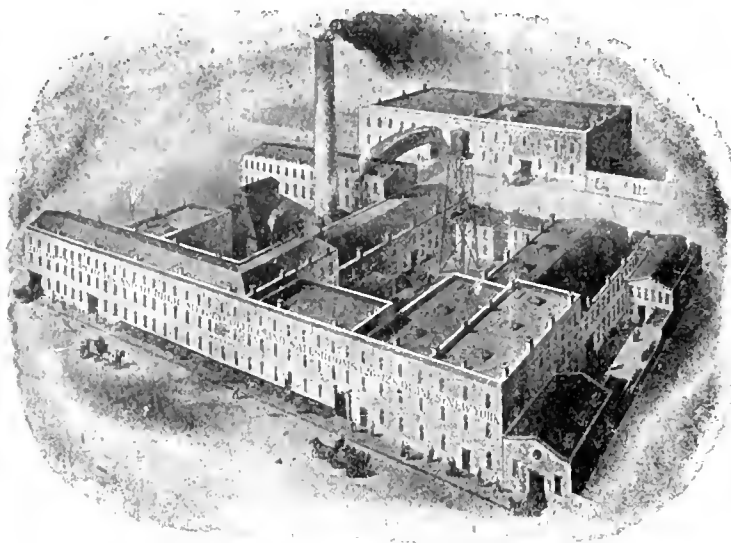
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